PURGE® SOLUTIONS

OPTIONS

User's Manual

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Patent Notice:

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Table of Contents

Legal Notices and Revision History Inside front cover

Section 1

How To Use This Manual 1
Safety Considerations 1
Label Definition Table 2
Locating Information 2
General Safety 3
General Precautions 3
Electrical Power 4
System Location 4
Purge Systems 4

Section 2

Specifications 5
Normal Operating Conditions 5
Utility Requirements 6
Environmental Conditions 6
Material Specifications 6
Continuous Dilution Purge Gas Inlet Kit Model Matrix 7
Manual Leakage Compensation Purge Gas Inlet Kit Model Matrix 7
Back-Up Vent Model Matrix 7
Automatic Leakage Compensation Purge Gas Inlet Kit Model Matrix 8
Vortex Cabinet Cooler Kit Model Matrix 9
Differential Pressure Gauge Kit Model Matrix 9
Back-Up Purge Gas Kit 9
Protective Gas Loss Indicator Kit 10
Increase Safety Window Kits 10

Section 3

Introduction 11
Description 11
Warranty 13

Section 4

Installation 14
Continuous Dilution Purge Gas Inlet Kit 15
Manual Leakage Compensation Purge Gas Inlet Kit 20
Automatic Leakage Compensation Purge Gas Inlet Kit 26
Back-Up Vents 34
Back-Up Purge Gas Kit 42
Protective Gas Loss Indicator Kit 45
Differential Pressure Gauge Kit 46
Vortex Cabinet Cooler Systems 52
Increase Safety Window Kits 55

Section 5

Getting Help 62

Section 1
How to Use This Manual

Safety Considerations:

This chapter includes important information that must be read and understood by all persons installing, using, or maintaining this equipment. While this manual is designed to aid personnel in the correct and safe installation, operation, and maintenance of the systems described. Personnel must consider all actions and procedures for potential hazards or conditions that may not have been anticipated in the written procedures. If a procedure cannot be performed safely, it must not be performed until appropriate actions can be taken to ensure the safety of equipment and personnel. The procedures in this manual are not designed to replace or supersede required or common sense safety practices. All safety warnings listed in any documents applicable to equipment and parts used in or with the system described in this manual must be read and heeded before commencing work on any part of the system.

NOTE: ***Refer to all ATEX, CSA, IECEx, NEC, NFPA and UL certificates for any Special Conditions of Use. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule of the certificate.***

WARNING: ***Failure to follow appropriate safety procedures or inappropriate use of the equipment described in this manual can lead to injury of personnel or equipment damage.***

The following symbols are used throughout this manual to alert users to potential hazards or important information. ***Failure to heed the warnings and cautions listed herein can lead to injury and equipment damage.***

Document Label Definitions Used To Indicate Potential Hazards		
Symbol	**Label**	**Description**
	WARNING:	Consists of conditions, practices, or procedures that must be observed to prevent injury or equipment damage.
	CAUTION:	Risk of electric shock or high temperature parts may result in injury if proper precautions are not taken.
	NOTE:	Emphasizes important or essential information.

Locating Information:

NOTE: ***In the interest of completeness, manuals and drawings included with the system may provide information pertaining to options not included with your equipment. Information in application notes supersedes general information in these documents. Information can be located in this manual using any of the following aids.***

1. Table of Contents
2. Index
3. Getting Help

General Safety and Operating Information:

This section contains general safety and operating information applicable to electrical equipment installed within hazardous locations. This information must be understood by all persons installing, using, or maintaining the electrical equipment. This information is designed to aid personnel in safe installation, operation, and maintenance of any options offered by Purge Solutions. It is not designed to replace or limit appropriate safety measures applicable to work performed by personnel. Any additional safety and operating measures that are required must be determined by and followed by personnel performing work on the electrical equipment.

***WARNING:* Deviation from the specified instruction or procedure steps can result in equipment malfunction, equipment damage, or injury to personnel.**

***WARNING:* Return unit to factory for any repairs or replacement of parts, customer not permitted. This will void all warranties and hazardous area certification(s).**

General Precautions:

Protective eyewear ***(glasses with side shields or goggles as appropriate*)** must be worn when servicing any part of electrical equipment. Hot components should be allowed to cool before servicing if possible. Other appropriate equipment or clothing must be used as required by the type of work performed. All applicable regulations and procedures must be followed for the work performed. ***Before*** beginning any work on the equipment, carefully consider all the potential hazards and ensure that appropriate measures are taken to prevent injury to personnel or equipment damage.

***CAUTION:* Electrical equipment components may be hot even when power is not applied. Take appropriate precautions to prevent injury from contact with hot items.**

***CAUTION:* Applicable permits must be obtained and appropriate precautions must be taken to prevent possible injury to personnel or equipment damage when installing or maintaining this equipment.**

Electrical Power:

Some of Purge Solutions options use AC power of 115 or 230 volts. Appropriate precautions must be taken to prevent sparks that may ignite combustible materials that may be present in the Purge Solutions options environment. Precautions must also be taken to prevent electrical shock if the electrical equipment's enclosure is being supplied by the Purge Solutions options are opened.

The power to any Purge Solutions option must be free from noise, surges, sags, and spikes for proper operation of any Purge Solutions option. AC power circuit breakers and wiring must be sized properly for the required current. All wiring installations must meet applicable electrical codes.

System Location:

All Purge Solutions options available from Purge Solutions must be installed in a suitable location. Any Purge Solutions option must not be installed in an area classification for which it is not rated and must be protected from temperature extremes. All options available from Purge Solutions should not be mounted in an area with potentially high vibration. All options available from Purge Solutions must be attached securely and appropriately to the wall of the electrical equipment's enclosure per the mounting instructions. All options available from Purge Solutions must be mounted in a location to permit adequate viewing of gauges and available area for required adjustment and servicing.

Purge Systems:

Electrical equipment may use purging to ensure safe operation when installed within a hazardous location. The protective gas purge supply must be clean, dry, and free from hydrocarbons or corrosive materials. All protective gas purge supply pressures must be set correctly and all electrical equipment enclosure doors must be closed securely. Purged enclosures must not be opened unless power is removed from the electrical equipment or the area is known to be non-hazardous.

CAUTION: ***Electrical equipment enclosures using any Purge Solutions purge option must not be opened unless power is removed from the electrical equipment or the area is known not to contain explosive materials.***

Section 2

Specifications

Features
All Small Purge Gas Inlet Kits are sized to supply enclosures with a combined volume of up to 15 cubic feet (425 liters). All Medium Purge Gas Inlet Kits are sized to supply enclosures with a combined volume of up to 75 cubic feet (2,125 liters). All Large Purge Gas Inlet Kits are sized to supply enclosures with a combined volume of up to 200 cubic feet (5,663 liters).
Automatic Leakage Compensation Purge Gas Inlet Kit Solenoid Valves are Certified for installation and use in ATEX and IECEx for II 2 G Ex mb II T5 – T4, Gas Hazardous Areas II 2 D Ex mbD 21 IP65 T100°C - T135°C, Dust Hazardous Areas
Automatic Leakage Compensation Purge Gas Inlet Kit Solenoid Valves are Certified for installation and use to CSA, NEC, NFPA and UL for Class I, Division 1, Group A, B, C & D, T6 – T3, Gas Hazardous Areas Class II, Division 1, Group E, F & G, T6 – T3, Dust Hazardous Areas
Increase Safety Window Kits are Certified for installation and use to ATEX and IECEx for II 2 G Ex e IIC Gb, Gas Hazardous Areas II 2 D Ex tb IIIC Db IP66, Dust Hazardous Areas

Normal Operating Conditions	
Dilution Cycle Time To Energizing Electrical Equipment	Typically, dilution cycle time is to ensure that at least five (5) times the volume of free space in the enclosure of protective gas supply is exchanged before power is applied to the electrical equipment. Ten (10) times volumes for motors, generators and other rotating electrical machinery.
Minimum Enclosure Pressure	Purge pressure being maintained above 0.50 inches H_2O (1.25 mbar) in electronics enclosure being monitored.

WARNING: ***The number of exchanged volumes may be higher in some situations*****.**

Utility Requirements	
Minimum Purge Gas Supply Pressure to Purge Gas Inlet Kit Pressure Regulator	20 psig (1.4 Bar) ***(Suggested to compensate for enclosure leak rate)***
Maximum Purge Gas Supply Pressure to Purge Gas Inlet Kit Pressure Regulator	150 psig (10.3 Bar) ***(Certification maximum pressure rating)***
Instrument Grade Air Supply Pressure to Vortex Cabinet Coolers	80 - 100 psig (5.5 - 6.9 bar) ***(Suggested for optimal cooling of enclosure)***
Purge Protective Gas and Vortex Cabinet Cooler Supply Quality	Water and oil-free, - 40°F (- 40°C) dew point, particles ≤ 5µ, ISA grade hydrocarbon free
Automatic Leakage Compensation Purge Gas Inlet Kit Solenoid Valves Voltage	115VAC or 230 VAC, 50/60 Hz, 10.1 Watt Coil
Mains Supply Fluctuation	Not to Exceed 10%
Over Voltage Category	II IEC 60364-4-443

Environmental Conditions	
Operating Temperature Range ***(For all Options but Listed Below)***	- 40°F to 150°F (- 40°C to 65°C)
Operating Temperature Range ***(For all Anodized Aluminum Purge Gas Inlet Kits)***	- 40°F to 126°F (- 40°C to 52°C)
Operating Temperature Range ***(For all Increase Safety Window Kits)***	- 40°F to 176°F (- 40°C to 80°C)
Used and Mounted	For Indoor and Outdoor Use

Material Specifications	
Anodized Aluminum Protection	NEMA 4 (IP66)
316 Stainless Steel Protection	NEMA 4X (IP66)

NOTE: ***Purge Solutions is NOT responsible for any misuse or improper installation of product, assumes no liability for special or consequential damages caused by use or misuse or improper installation of its products sold and assumes no liability for injury from use or misuse or improper installation of its products or attached products.***

Continuous Dilution Purge Gas Inlet Kit Model Number Matrix

Size	Material	Model Number
Small	Anodized Aluminum	PSO-SCD-A
Medium	Anodized Aluminum	PSO-MCD-A
Large	Anodized Aluminum	PSO-LCD-A
Small	316 Stainless Steel	PSO-SCD-S
Medium	316 Stainless Steel	PSO-MCD-S
Large	316 Stainless Steel	PSO-LCD-S

Manual Leakage Compensation Purge Gas Inlet Kit Model Number Matrix

Size	Material	Model Number
Small	Anodized Aluminum	PSO-SMLC-A
Medium	Anodized Aluminum	PSO-MMLC-A
Large	Anodized Aluminum	PSO-LMLC-A
Small	316 Stainless Steel	PSO-SMLC-S
Medium	316 Stainless Steel	PSO-MMLC-S
Large	316 Stainless Steel	PSO-LMLC-S

Back-Up Vent Model Number Matrix

Size	Mounting Location	Model Number
Small	Side Mount	PSO-SBUV-S
Medium	Side Mount	PSO-MBUV-S
Large	Side Mount	PSO-LBUV-S
Small	Top Mount	PSO-SBUV-T
Medium	Top Mount	PSO-MBUV-T
Large	Top Mount	PSO-LBUV-T

Automatic Leakage Compensation Purge Gas Inlet Kit
Model Number Matrix

Size	Certification	Voltage	Material	Model Number
Small	Division 1	115 VAC	Anodized Aluminum	PSO-SALC-D1A
Medium	Division 1	115 VAC	Anodized Aluminum	PSO-MALC-D1A
Large	Division 1	115 VAC	Anodized Aluminum	PSO-LALC-D1A
Small	Division 1	115 VAC	316 Stainless Steel	PSO-SALC-D1S
Medium	Division 1	115 VAC	316 Stainless Steel	PSO-MALC-D1S
Large	Division 1	115 VAC	316 Stainless Steel	PSO-LALC-D1S
Small	Division 1	230 VAC	Anodized Aluminum	PSO-SALC-D2A
Medium	Division 1	230 VAC	Anodized Aluminum	PSO-MALC-D2A
Large	Division 1	230 VAC	Anodized Aluminum	PSO-LALC-D2A
Small	Division 1	230 VAC	316 Stainless Steel	PSO-SALC-D2S
Medium	Division 1	230 VAC	316 Stainless Steel	PSO-MALC-D2S
Large	Division 1	230 VAC	316 Stainless Steel	PSO-LALC-D2S
Small	Zone 1	115 VAC	Anodized Aluminum	PSO-SALC-Z1A
Medium	Zone 1	115 VAC	Anodized Aluminum	PSO-MALC-Z1A
Large	Zone 1	115 VAC	Anodized Aluminum	PSO-LALC-Z1A
Small	Zone 1	115 VAC	316 Stainless Steel	PSO-SALC-Z1S
Medium	Zone 1	115 VAC	316 Stainless Steel	PSO-MALC-Z1S
Large	Zone 1	115 VAC	316 Stainless Steel	PSO-LALC-Z1S
Small	Zone 1	230 VAC	Anodized Aluminum	PSO-SALC-Z2A
Medium	Zone 1	230 VAC	Anodized Aluminum	PSO-MALC-Z2A
Large	Zone 1	230 VAC	Anodized Aluminum	PSO-LALC-Z2A
Small	Zone 1	230 VAC	316 Stainless Steel	PSO-SALC-Z2S
Medium	Zone 1	230 VAC	316 Stainless Steel	PSO-MALC-Z2S
Large	Zone 1	230 VAC	316 Stainless Steel	PSO-LALC-Z2S

Continuous Operation Vortex Cabinet Cooler System *(Without Thermostat Control)* Model Number Matrix

Cooling Capacity	Supply Pressure	Air Consumption	Model Number
900 Btu/hr (264 W)	100 psig (6.9 bar)	15 SCFM (425 LPM)	PSO-CO0900
1500 Btu/hr (440 W)	100 psig (6.9 bar)	25 SCFM (708 LPM)	PSO-CO1500
2500 Btu/hr (732 W)	100 psig (6.9 bar)	35 SCFM (991 LPM)	PSO-CO2500
5000 Btu/hr (1465 W)	100 psig (6.9 bar)	70 SCFM (1981 LPM)	PSO-CO5000

Thermostat Controlled Vortex Cabinet Cooler System Model Number Matrix

Cooling Capacity	Supply Pressure	Air Consumption	Model Number
900 Btu/hr (264 W)	100 psig (6.9 bar)	15 SCFM (425 LPM)	PSO-TC0900
1500 Btu/hr (440 W)	100 psig (6.9 bar)	25 SCFM (708 LPM)	PSO-TC1500
2500 Btu/hr (732 W)	100 psig (6.9 bar)	35 SCFM (991 LPM)	PSO-TC2500
5000 Btu/hr (1465 W)	100 psig (6.9 bar)	70 SCFM (1981 LPM)	PSO-TC5000

Differential Pressure Gauge Kit Model Number Matrix

Mounting Location	Model Number
Bottom Enclosure Mount	PSO-DPG-B
Left Side Enclosure Mount	PSO-DPG-L
Right Side Enclosure Mount	PSO-DPG-R
Top Enclosure Mount	PSO-DPG-T

Back-Up Purge Gas Kit Model Number

PSO-BUPG-K

Protective Gas Loss Indicator Kit Model Number
PSO-PGLI-K

Increased Safety Window Kits Model Number Matrix		
Window Viewing Size	**Bezel Material**	**Model Number**
0.98 (24.9) x 1.88 (47.8)	Anodized Aluminum	PSO-1/32DINW-A
1.88 (47.8) x 1.88 (47.8)	Anodized Aluminum	PSO-1/16DINW-A
1.88 (47.8) x 3.76 (95.5)	Anodized Aluminum	PSO-1/8DINW-A
3.76 (95.5) x 3.76 (95.5)	Anodized Aluminum	PSO-1/4DINW-A
7.25 (184.2) x 10.00 (254.00)	Anodized Aluminum	PSO-XLW-A
0.98 (24.9) x 1.88 (47.8)	316 Stainless Steel	PSO-1/32DINW-S
1.88 (47.8) x 1.88 (47.8)	316 Stainless Steel	PSO-1/16DINW-S
1.88 (47.8) x 3.76 (95.5)	316 Stainless Steel	PSO-1/8DINW-S
3.76 (95.5) x 3.76 (95.5)	316 Stainless Steel	PSO-1/4DINW-S
7.25 (184.2) x 10.00 (254.00)	316 Stainless Steel	PSO-XLW-S

Section 3

Introduction

Description:

Purge Solutions offers two different purge methods to dilute the electronics enclosure and maintain at least 0.50 inches H_2O (1.25 mbar); continuous dilution or leakage compensation. Continuous dilution is a method of maintaining pressure in an electronics enclosure in which after the electronics enclosure has been diluted below the required lower explosive limit (LEL) the protective gas is passed continuously through the electronics enclosure at a pressure above that of the required 0.50 inches H_2O (1.25 mbar) and discharged to the outside atmosphere through an exhaust vent. The same volume of purge gas is maintained during and after the dilution time cycle. Continuous dilution is normally used for maintaining and controlling heat buildup from the electronics within the pressurized enclosure by continuously exchanging purge gas through the electronics enclosure to atmosphere. Purge Solutions offers three sizes of continuous dilution models a Small Continuous Dilution Purge Gas Inlet Kit for enclosures with a volume up to 15 cubic feet (425 liters), a Medium Continuous Dilution Purge Gas Inlet Kit for enclosures with a volume up to 75 cubic feet (2,125 liters) and a Large Continuous Dilution Purge Gas Inlet Kit for enclosures with volumes up to 200 cubic feet (5,663 liters). All Small, Medium and Large Continuous Dilution Purge Gas Inlet Kits are available in materials of anodized aluminum or 316 stainless steel.

The second purge method offered by Purge Solutions; leakage compensation allows a higher volume of protective gas supply to be manually or automatically selected to speed up dilution time of potentially flammable materials to an acceptable level, permitting a more-rapid application of initial power, or restoration of power to protected electrical equipment, after service. When the dilution cycle has elapsed, the large volume of purge gas can be manually or automatically turned off. A volume of purge gas larger than the leak rate of the electronics enclosure will be introduced into the now protected electronics enclosure to maintain at least 0.50 inches H_2O (1.25 mbar). Leakage compensation is normally used to conserve purge gas when utilities are at a premium. Purge Solutions offers three sizes of leakage compensation models a Small Leakage Compensation Purge Gas Inlet Kit for enclosures with a volume up to 15 cubic feet (425 liters) a Medium Leakage Compensation Purge Gas Inlet Kit for enclosures with volumes up to 75 cubic feet (2,125 liters) and a Large Leakage Compensation Purge Gas Inlet Kit for enclosures with volumes up to 200 cubic feet (5,663 liters). All Small, Medium and Large Leakage Compensation Purge Gas Inlet Kits are available in materials of anodized aluminum or 316 stainless steel.

For installations that require a back-up pressure relief vent for the purged enclosure, Purge Solutions offers three sizes of back-up pressure relief vent kits. A Small Back-Up Vent for enclosures with a volume up to 15 cubic feet (425 liters), a Medium Back-Up Vent for enclosures with volumes up to 75 cubic feet (2,125 liters) and a Large Back-Up Vent for enclosures with volumes up to 200 cubic feet (5,663 liters). All three Back-Up

Vents are constructed of 316 stainless steel with an option of mounting on the top or side of an enclosure.

For purged electronic enclosures using a Purge Solutions indicator or controller, which has electrical components with higher surface temperatures than the temperature class of the hazardous area in which the electrical equipment is located, Purge Solutions offers a Back-Up Purge Gas Kit, which is used in the event that the initial protective gas supply is lost, a back-up source of protective gas is automatically applied to the protected enclosure. Electrical equipment protected with this feature is allowed to cool adequately, while preventing the ingress of flammable materials in the surrounding atmosphere from entering into the electronics enclosure as long as positive pressure is maintained.

For purged enclosures using the Back-Up Purge Gas Kits, a Protective Gas Loss Indicator can be installed for remote protective gas purge supply monitoring. By installing one Protective Gas Loss Indicator on the initial protective purge gas supply line, an alarm signal can be sent if the initial protective purge gas supply has been lost. A second Protective Gas Loss Indicator installed on the protective back-up purge gas supply line will send an alarm signal if the protective back-up purge gas supply has been depleted, as might be the case when bottled gas is used as a back-up gas source.

WARNING: ***Failure to heed the following information may lead to injury of personnel or equipment damage.***

CAUTION: ***Electrical equipment components may be hot even when power is not applied. Take appropriate precautions to prevent injury from contact with hot items.***

WARNING: ***Failure to allow adequate cooling of electrical equipment components with hot surfaces before opening the purged enclosure can lead to injury of personnel or equipment damage.***

For applications where thermal management of electrical cabinets and control panels are required; Purge Solutions offers Vortex Cabinet Cooler Systems, which provide cooling capacities for your application and maintain a NEMA 4 or 4X (IP66) rating for installation and use in hazardous area.

NOTE: There are special modifications and sizing requirements to be made before Vortex Cabinet Coolers Systems are able to be installed and used in a hazardous area.

For purged and / or increased safety enclosure that require viewing of components mounted within the enclosure Purge Solutions offers Increase Safety Window Kits in 5 different window viewing sizes with bezels available in anodized aluminum or 316 stainless steel.

Warranty:

Purge Solutions products are warranted free from defects in material and workmanship at the time of shipment for one year thereafter. Any claimed defects with Purge Solutions products must be reported within the warranty period and warranty subject to inspection by Purge Solutions. All warranty inspections are to be performed Purge Solutions facility. Customer shall ship with shipping charges paid by the customer to Purge Solutions facility.

After inspection by Purge Solutions, a quotation of proposed work required will be sent to the customer. Purge Solutions shall be liable only to replace or repair, at its option, free of charge, products which are found by Purge solutions to be defective in material or workmanship, and which are reported to Purge Solutions within the warranty period as provide previously. This right to replacement shall be customer's exclusive remedy against Purge Solutions. Shipment of repaired or replaced products from Purge Solutions facility shall be F.O.B. Purge Solutions facility.

Purge Solutions shall not be liable for labor charges or other losses or damages of any kind or description, including but not limited to, incidental, special or consequential damages caused by defective products. This warranty shall be void if product specifications provided by Purge Solutions are not followed concerning methods of installation, operation, usage, storage or exposure to harsh conditions (including, but not limited to, temperature and humidity levels outside the approved ranges).

Materials and / or products furnished by Purge Solutions by other suppliers shall carry no warranty except that supplier's warranties as to materials and workmanship. Purge Solutions disclaims all warranties, expressed or implied, with respect to such products.

Limitations on Warranties: The express warranties set forth herein constitute the only warranties with respect to the products sold in connection herewith. Purge Solutions makes no representation or warranty of any kind, express or implied (either in fact or by operation of law), with respect to the products, whether as to their merchantability, fitness for a particular purpose or otherwise. No employee, agent or representative of Purge Solutions has any authority to bind Purge Solutions to any oral or written representation or warranty concerning the Products over and above that stated herein, except by written amendment signed by Purge Solutions and customer.

Section 4

Installation

Small, Medium and Large Continuous Dilution Purge Gas Inlet Kit Installation Procedure:

Continuous dilution is a method of maintaining pressure in an enclosure in which after the enclosure has been pre-purged the protective gas is passed continuously through the enclosure at a pressure above that of the specified minimum and discharged to the outside atmosphere through an exhaust vent. The same volume of purge gas is maintained during and after the dilution cycle.

Purge Solutions offers three sizes of continuous dilution purge gas inlet kit models, the first size is our Small Continuous Dilution Purge Gas Inlet Kit for enclosures with a volume up to 15 cubic feet (425 liters). Model number PSO-SCD-A is our small aluminum version and model number PSO-SCD-S is our small stainless steel version. Purge gas supply inlet to Small Continuous Pressure Air Inlet Kit regulator is 1/4-18 FNPT.

The second size we offer is our Medium Continuous Dilution Purge Gas Inlet Kit for enclosures with volumes up to 75 cubic feet (2,125 liters). Model number PSO-MCD-A is our medium aluminum version and model number PSO-MCD-S is our medium stainless steel version. Purge gas supply inlet to Medium Continuous Dilution Purge Gas Inlet Kit regulator is 3/8-18 FNPT.

The third size we offer is our Large Continuous Dilution Purge Gas Inlet Kit for enclosures with volumes up to 200 cubic feet (5,663 liters). Model number PSO-LCD-A is our large aluminum version and model number PSO-LCD-S is our large stainless steel version. Purge gas supply inlet to Large Continuous Dilution Purge Gas Inlet Kit regulator is 1/2-14 FNPT. All Continuous Dilution Purge Gas Inlet Kits include input fittings, regulator, gauge, manifold and mounting hardware.

WARNING: ***Before attempting to install any Purge Solutions option, review all the material and all safety information in this manual and all other applicable documents.***

WARNING: ***Applicable permits must be obtained and appropriate precautions must be taken to prevent possible injury to personnel or equipment damage when installing any Purge Solution option.***

NOTE: ***Refer to all ATEX, CSA, IECEx, NEC, NFPA and UL certificates for any Special Conditions of Use. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule of the certificate.***

Review all of the material in this manual prior to installing and interfacing the Continuous Dilution Purge Gas Inlet Kit to the enclosure it will be supplying purge gas. If you have any questions, please contact your local Purge Solutions representative or the factory (refer Getting Help page 62) or view installation video, which can be found on our web site www.purgesolutions.com. Refer to Small Continuous Dilution Purge Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-SCD (page 15), Medium Continuous Dilution Purge Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-MCD (page 16) or Large Continuous Dilution Purge Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-LCP (page 17) for over all unit dimensions, hole sizes and locations required to interface and mount system to enclosure.

Step 1:

Make sure that area surrounding the enclosure the Continuous Dilution Purge Gas Inlet Kit to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Continuous Dilution Purge Gas Inlet Kit will be installed.

Step 3:

Choose a mounting location for the Continuous Dilution Purge Gas Inlet Kit on the enclosure in a location that would best dilute enclosure as specified in the type X, Y or Z purge unit users manual for lighter or heavier than air hazardous material for single or multiple enclosure applications. The chosen location should permit adequate viewing of the Continuous Dilution Purge Gas Inlet Kit pressure gauge and interface with pressure regulator for required adjustment.

Step 4:

Use Mounting Hole Pattern (drawing number PSO-SCD, page 15, PSO-MCD, page 16 or PSO-LCD, page 17) to accurately locate the mounting holes. Use the Mounting Hole Template to draw and a 1 to 1 scale drawing. Tape the 1 to 1 drawing to the ***outside*** of enclosure. The required hole locations can then be transferred and/or marked using the centers of the holes as shown on the 1 to 1 drawing.

Step 5:

Drill or punch all holes, per the sizes specified on the Mounting Hole Pattern (drawing number PSO-SCD, page 15, PSO-MCD, page 16 or PSO-LCP, page 17).

Step 6:

After required holes have been drilled or punched into enclosure, align the Continuous Dilution Purge Gas Inlet Kit to the mounting holes fabricated in Step 5.

Step 7:

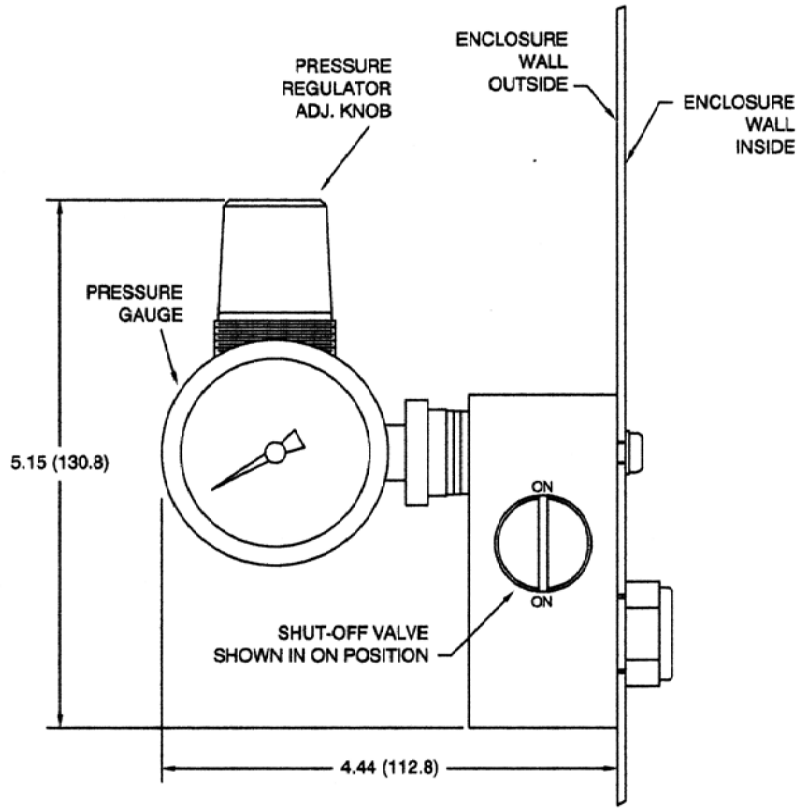
Using the interface fitting provided with the unit, mount the Continuous Dilution Purge Gas Inlet Kit to enclosure. Tighten fitting and hardware until the seals are completely compressed against the surface of the enclosure.

Step 8:

After Continuous Dilution Purge Gas Inlet Kit fittings have been properly tightened, connect supply purge gas to the pressure regulator inlet port of the Continuous Dilution Purge Gas Inlet Kit. Refer to drawing number PSO-SCD, page 15, PSO-MCD, page 16 or PSO-LCD, page 17) for purge gas supply inlet size.

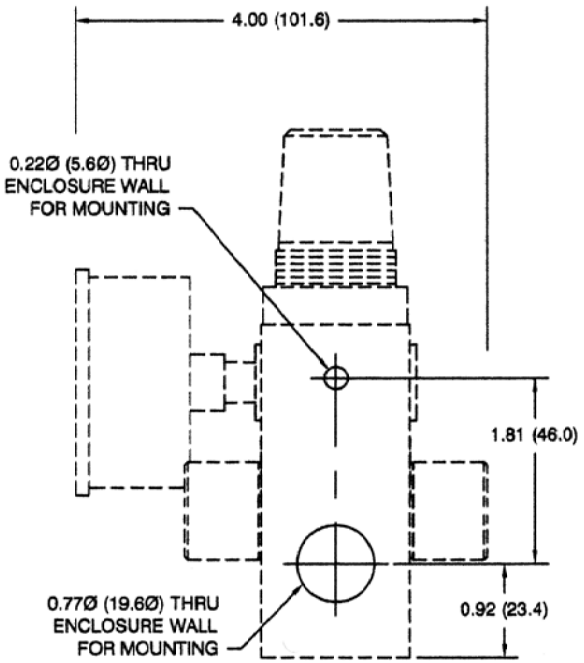
Step 9:

Once the purge gas supply has been connected to the pressure regulator inlet port of the Continuous Dilution Purge Gas Inlet Kit, it is ready to supply purge gas to the enclosure.



FRONT VIEW

NOTE: PURGE GAS INLET = 1/4 - 18 FNPT



SIDE VIEW
MOUNTING HOLE PATTERN

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

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DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
Dimensions Are In Inches
Dimensions In ( ) Are In mm
Tolerances: X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 09/DEC/08
CHECKED: WJT
DATE: 09/DEC/08
APPROVED: WJT
DATE: 09/DEC/08

TITLE: SMALL CONTINUOUS DILUTION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN

PART & DWG #: PSO-SCD
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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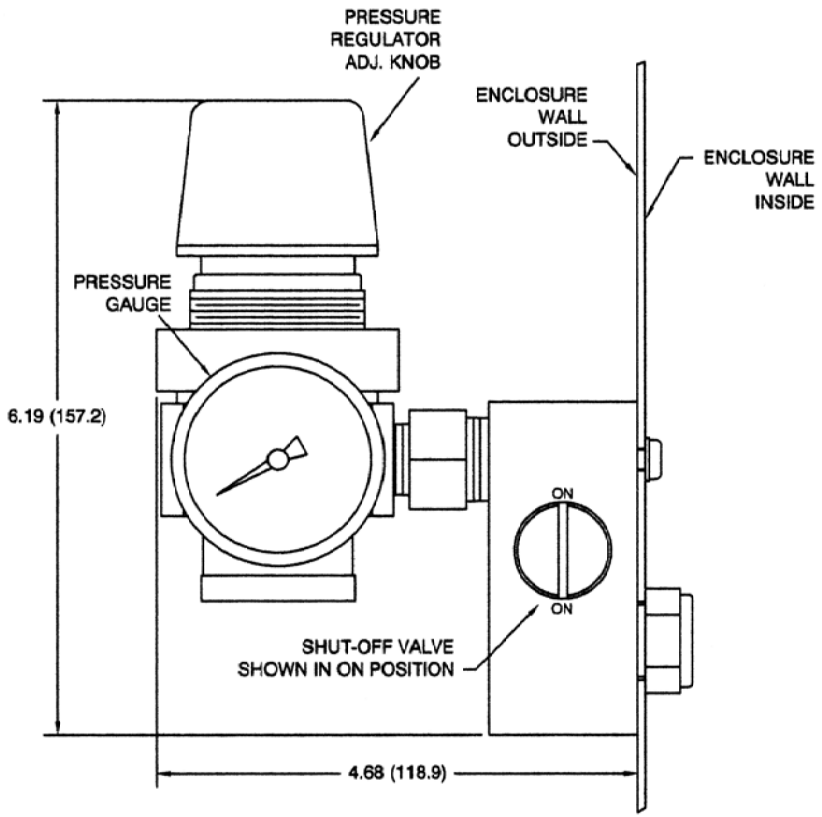
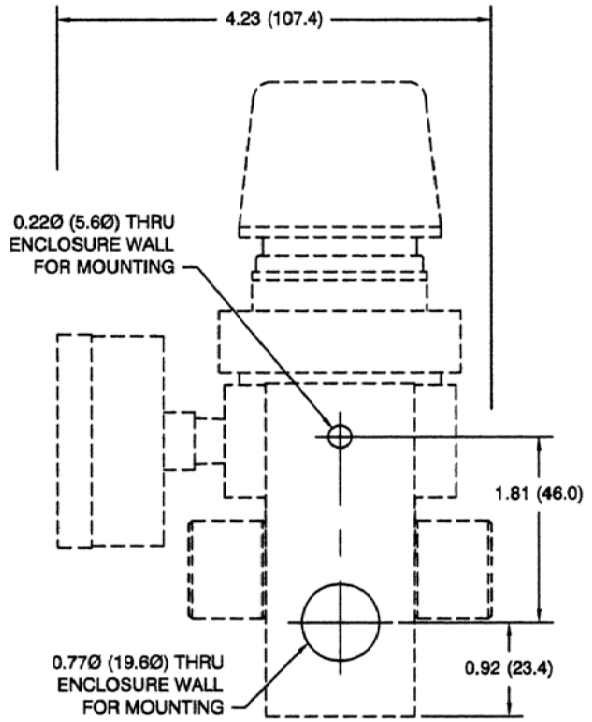


FRONT VIEW

NOTE: PURGE GAS INLET = 3/8 FNPT



SIDE VIEW
MOUNTING HOLE PATTERN

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

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Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 08/DEC/08
CHECKED: WJT
DATE: 08/DEC/08
APPROVED: WJT
DATE: 08/DEC/08

TITLE: MEDIUM CONTINUOUS DILUTION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN

PART & DWG #: PSO-MCD
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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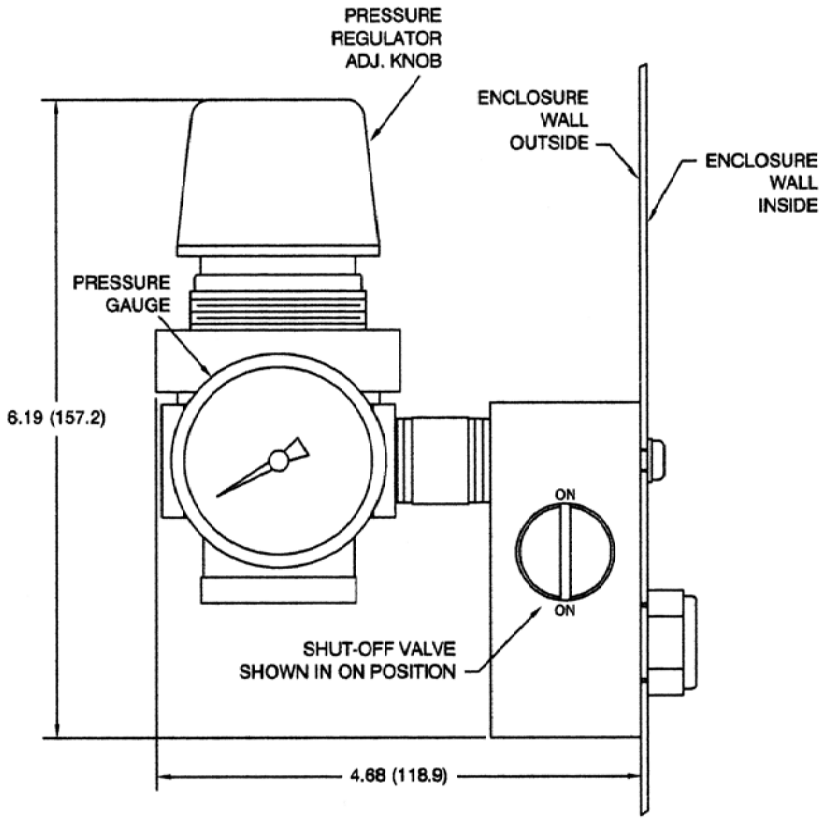
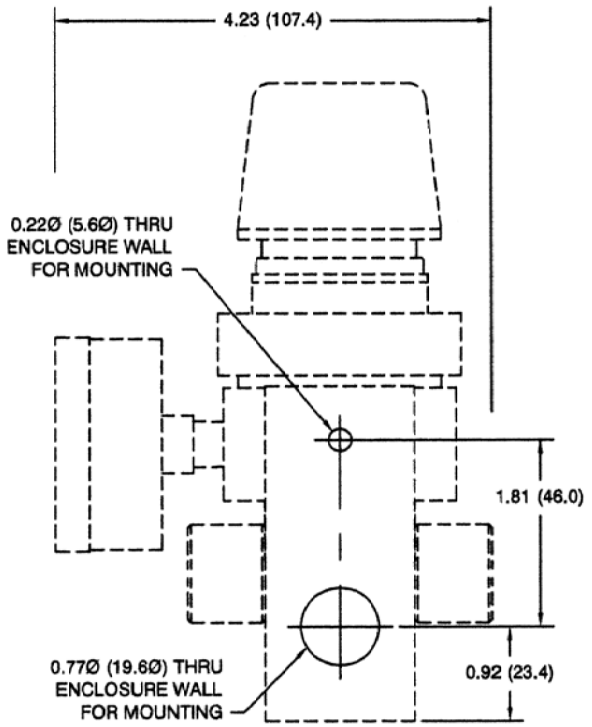


FRONT VIEW

NOTE: PURGE GAS INLET = 1/2-14 FNPT



SIDE VIEW
MOUNTING HOLE PATTERN

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

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DO NOT SCALE DRAWING
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Dimensions In ( ) Are in mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 08/DEC/08
CHECKED: WJT
DATE: 08/DEC/08
APPROVED: WJT
DATE: 08/DEC/08

TITLE: LARGE CONTINUOUS DILUTION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN
PART & DWG #: PSO-LCD
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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Small, Medium and Large Manual Leakage Compensation Purge Gas Inlet Kit Installation Procedure:

Manual leakage compensation allows a higher volume of protective gas supply to be manually selected to speed up dilution of potentially flammable materials to an acceptable level, permitting a more-rapid application of initial power, or restoration of power to protected electrical equipment, after service. When the dilution cycle has elapsed, the large volume of purge gas can be manually turned off. A volume of purge gas larger than the leak rate of the enclosure will be introduced into the now protected enclosure to maintain at least 0.50 inches H2O (1.25 mbar).

Purge Solutions offers three sizes of manual leakage compensation purge gas inlet kit models, the first size is our Small Manual Leakage Compensation Purge Gas Inlet Kit for enclosures with a volume up to 15 cubic feet (425 liters). Model number PSO-SMLC-A is our small aluminum version and model number PSO-SMLC-S is our small stainless steel version. Purge gas supply inlet to Small Manual Leakage Compensation Purge Gas Inlet Kit regulator is 1/4-18 FNPT.

The second size we offer is our Medium Manual Leakage Compensation Purge Gas Inlet Kit for enclosures with volumes up to 75 cubic feet (2,125 liters). Model number PSO-MMLC-A is our medium aluminum version and model number PSO-MMLC-S is our large stainless steel version. Purge gas supply inlet to Medium Manual Leakage Compensation Purge Gas Inlet Kit regulator is 3/8-18 FNPT.

The third size we offer is our Large Manual Leakage Compensation Purge Gas Inlet Kit for enclosures with volumes up to 200 cubic feet (5,663 liters). Model number PSO-LMLC-A is our large aluminum version and model number PSO-LMLC-S is our large stainless steel version. Purge gas supply inlet to Large Manual Leakage Compensation Purge Gas Inlet Kit regulator is 1/2-14 FNPT. All Manual Leakage Compensation Purge Gas Inlet Kits include input fittings, regulator, gauge and manifold block.

WARNING: ***Before attempting to install any Purge Solutions option, review all the material and all safety information in this manual and all other applicable documents.***

WARNING: ***Applicable permits must be obtained and appropriate precautions must be taken to prevent possible injury to personnel or equipment damage when installing any Purge Solution option.***

NOTE: ***Refer to all ATEX, CSA, IECEx, NEC, NFPA and UL certificates for any Special Conditions of Use. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule of the certificate.***

Review all of the material in this manual prior to installing and interfacing the Manual Leakage Compensation Purge Gas Inlet Kit to the enclosure it will be supplying purge gas. If you have any questions, please contact your local Purge Solutions representative or the factory (refer Getting Help page 62) or view installation video, which can be found on our web site www.purgesolutions.com. Refer to Small Manual Leakage Compensation Purge Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-SMLC (page 23), Medium Manual Leakage Compensation Purge Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-MMLC (page 24) or Large Manual Leakage Compensation Purge Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-LMLC (page 25) for over all unit dimensions, hole sizes and locations required to interface and mount system to enclosure.

Step 1:

Make sure that area surrounding the enclosure the Manual Leakage Compensation Purge Gas Inlet Kit to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Manual Leakage Compensation Purge Gas Inlet Kit will be installed.

Step 3:

Choose a mounting location for the Manual Leakage Compensation Purge Gas Inlet Kit on the enclosure in a location that would best dilute enclosure as specified in the type X, Y or Z purge unit users manual for lighter or heavier than air hazardous material for single or multiple enclosure applications. The chosen location should permit adequate viewing of the Manual Leakage Compensation Purge Gas Inlet Kit pressure gauge and interface with pressure regulator for required adjustment.

Step 4:

Use Mounting Hole Pattern (drawing number PSO-SMLC, page 23, PSO-MMLC, page 24 or PSO-LMLC, page 25) to accurately locate the mounting holes. Use the Mounting Hole Template to draw and a 1 to 1 scale drawing. Tape the 1 to 1 drawing to the ***outside*** of enclosure. The required hole locations can then be transferred and/or marked using the centers of the holes as shown on the 1 to 1 drawing.

Step 5:

Drill or punch all holes, per the sizes specified on the Mounting Hole Pattern (drawing number PSO-SMLC, page 23, PSO-MMLC, page 24 or PSO-LMLC, page 25).

Step 6:

After required mounting holes have been drilled or punched into enclosure, align the Manual Leakage Compensation Purge Gas Inlet Kit to the mounting holes fabricated in Step 5.

Step 7:

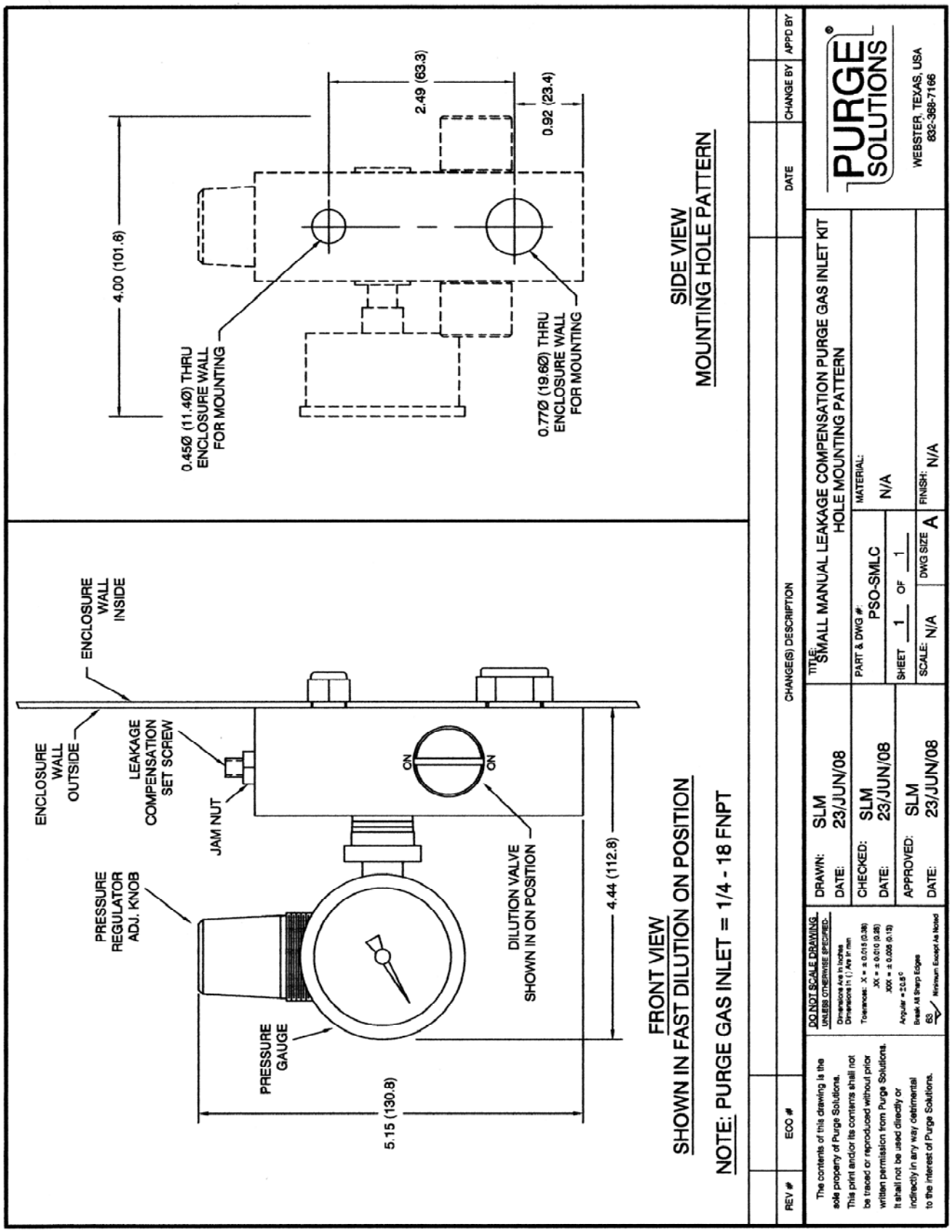
Using the interface fitting provided with the unit, mount the Manual Leakage Compensation Purge Gas Inlet Kit to enclosure. Tighten fittings until the o-ring seal is completely compressed against the surface of the enclosure.

Step 8:

After Manual Leakage Compensation Purge Gas Inlet Kit fittings have been properly tightened, connect supply purge gas to the pressure regulator inlet port of the Manual Leakage Compensation Purge Gas Inlet Kit. Refer to drawing number PSO-SMLC, page 23, PSO-MMLC, page 24 or PSO-LLC, page 25) for purge gas supply inlet size.

Step 9:

Once the purge gas supply has been connected to the pressure regulator inlet port of the Manual Leakage Compensation Purge Gas Inlet Kit, it is ready to supply purge gas to the enclosure.


4.00 (101.6)
2.49 (63.3)
0.92 (23.4)
0.450Ø (11.40) THRU ENCLOSURE WALL FOR MOUNTING
0.770Ø (19.60) THRU ENCLOSURE WALL FOR MOUNTING
SIDE VIEW
MOUNTING HOLE PATTERN
ENCLOSURE WALL INSIDE
ENCLOSURE WALL OUTSIDE
LEAKAGE COMPENSATION SET SCREW
JAM NUT
PRESSURE REGULATOR ADJ. KNOB
PRESSURE GAUGE
DILUTION VALVE SHOWN IN ON POSITION
ON
ON
4.44 (112.8)
5.15 (130.8)
FRONT VIEW
SHOWN IN FAST DILUTION ON POSITION
NOTE: PURGE GAS INLET = 1/4 - 18 FNPT
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APPD BY
DO NOT SCALE DRAWING UNLESS OTHERWISE SPECIFIED:
Dimensions Are In Inches
Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ± 0.5°
Break All Sharp Edges
63 Minimum Except As Noted
DRAWN: SLM
DATE: 23/JUN/08
CHECKED: SLM
DATE: 23/JUN/08
APPROVED: SLM
DATE: 23/JUN/08
TITLE: SMALL MANUAL LEAKAGE COMPENSATION PURGE GAS INLET KIT HOLE MOUNTING PATTERN
PART & DWG #: PSO-SMLC
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A
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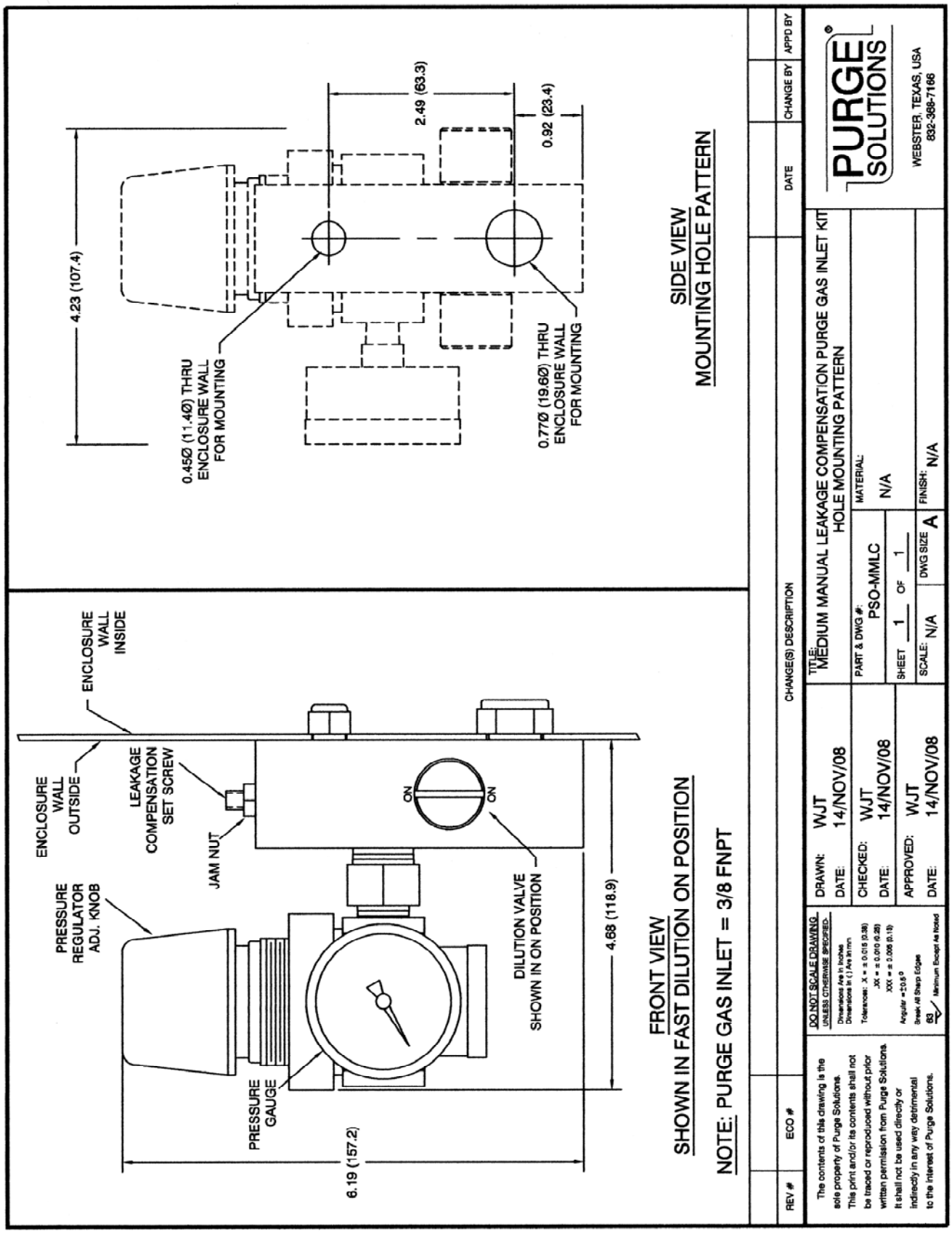
4.23 (107.4)
2.49 (63.3)
0.92 (23.4)
0.450 (11.40) THRU ENCLOSURE WALL FOR MOUNTING
0.770 (19.60) THRU ENCLOSURE WALL FOR MOUNTING
SIDE VIEW
MOUNTING HOLE PATTERN
ENCLOSURE WALL INSIDE
ENCLOSURE WALL OUTSIDE
LEAKAGE COMPENSATION SET SCREW
JAM NUT
PRESSURE REGULATOR ADJ. KNOB
ON
ON
DILUTION VALVE SHOWN IN ON POSITION
PRESSURE GAUGE
6.19 (157.2)
4.68 (118.9)
FRONT VIEW
SHOWN IN FAST DILUTION ON POSITION
NOTE: PURGE GAS INLET = 3/8 FNPT
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APPD BY
DO NOT SCALE DRAWING UNLESS OTHERWISE SPECIFIED:
Dimensions Are in: Inches
Dimensions in ( ) Are in mm
Tolerances: X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ± 0.5 °
Break All Sharp Edges
63 Minimum Except As Noted
DRAWN: WJT
DATE: 14/NOV/08
CHECKED: WJT
DATE: 14/NOV/08
APPROVED: WJT
DATE: 14/NOV/08
TITLE: MEDIUM MANUAL LEAKAGE COMPENSATION PURGE GAS INLET KIT HOLE MOUNTING PATTERN
PART & DWG #: PSO-MMLC
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A
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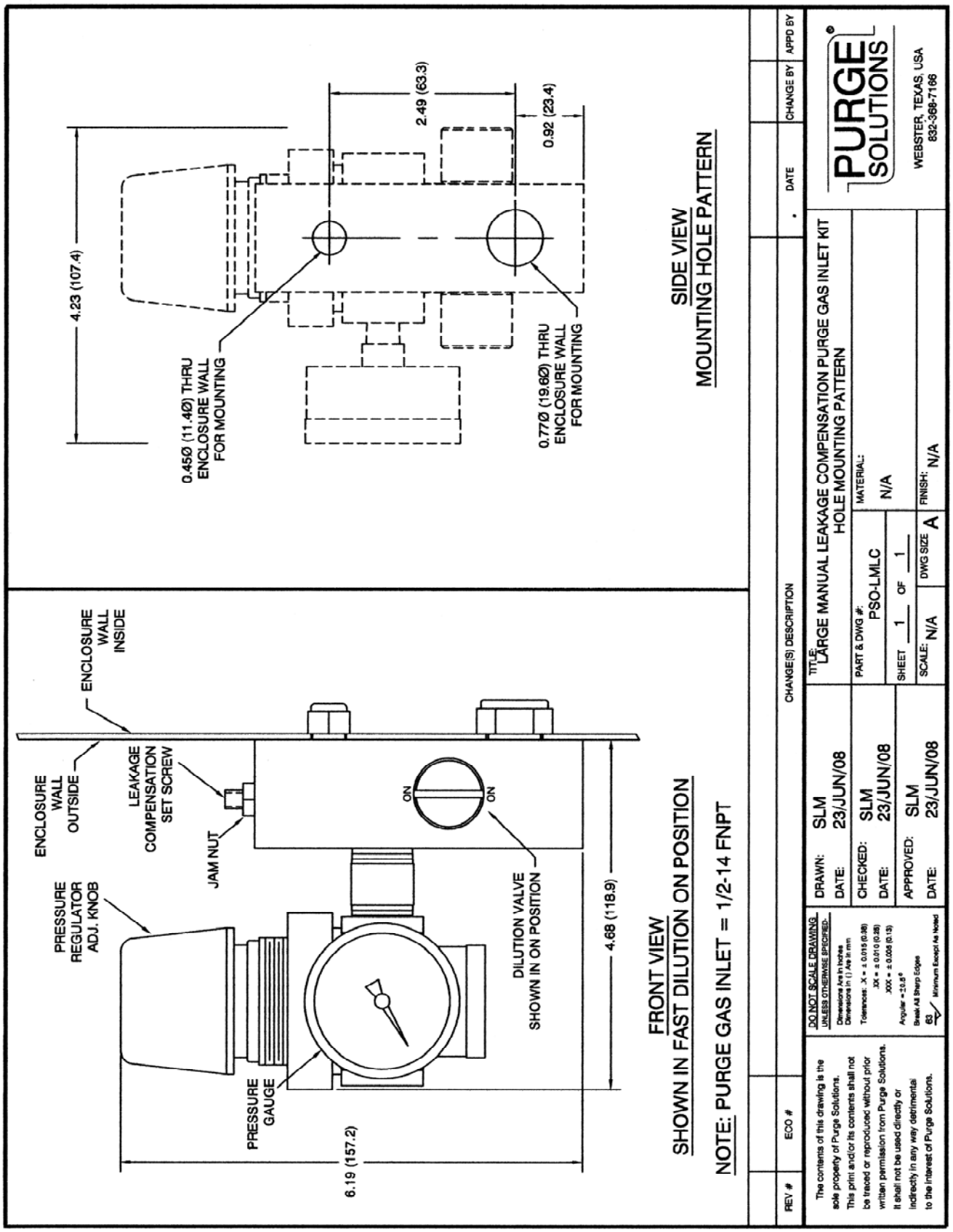
4.23 (107.4)
2.49 (63.3)
0.92 (23.4)
0.450 (11.40) THRU
ENCLOSURE WALL
FOR MOUNTING
0.770 (19.60) THRU
ENCLOSURE WALL
FOR MOUNTING
SIDE VIEW
MOUNTING HOLE PATTERN
ENCLOSURE
WALL
INSIDE
ENCLOSURE
WALL
OUTSIDE
LEAKAGE
COMPENSATION
SET SCREW
JAM NUT
PRESSURE
REGULATOR
ADJ. KNOB
ON
ON
DILUTION VALVE
SHOWN IN ON POSITION
PRESSURE
GAUGE
6.19 (157.2)
4.68 (118.9)
FRONT VIEW
SHOWN IN FAST DILUTION ON POSITION
NOTE: PURGE GAS INLET = 1/2-14 FNPT
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APPD BY
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Dimensions in ( ) Are in mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted
DRAWN: SLM
DATE: 23/JUN/08
CHECKED: SLM
DATE: 23/JUN/08
APPROVED: SLM
DATE: 23/JUN/08
TITLE: LARGE MANUAL LEAKAGE COMPENSATION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN
PART & DWG #: PSO-LMLC
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A
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Small, Medium and Large Automatic Leakage Compensation Purge Gas Inlet Kit Installation Procedure:

Automatic leakage compensation allows a higher volume of protective gas supply to be automatically selected by the Purge Controller to speed up dilution of potentially flammable materials to an acceptable level, permitting a more-rapid application of initial power, or restoration of power to protected electrical equipment, after service. When the dilution cycle has elapsed, the large volume of purge gas can be automatically turned off by the Purge Controller. A volume of purge gas larger than the leak rate of the enclosure will be introduced into the now protected enclosure to maintain at least 0.50 inches H2O (1.25 mbar).

Purge Solutions offers three sizes of Automatic Leakage Compensation Purge Gas Inlet Kit models, the first size is our Small Automatic Leakage Compensation Purge Gas Inlet Kit for enclosures with a volume up to 15 cubic feet (425 liters). Model number PSO-SALC-D1A is our small, Division, 115VAC, aluminum version, model number PSO-SALC-D2A is our small, Division, 230VAC, aluminum version, model number PSO-SALC-D1S is our small, Division, 115VAC, stainless steel version and model number PSO-SALC-D2S is our small, Division, 230VAC, stainless steel version. Model number PSO-SALC-Z1A is our small, Zone, 115VAC, aluminum version, model number PSO-SALC-Z2A is our small, Zone, 230VAC, aluminum version, model number PSO-SALC-Z1S is our small, Zone, 115VAC, stainless steel version and model number PSO-SALC-Z2S is our small, Zone, 230VAC, stainless steel version. Purge gas supply inlet to Small Automatic Leakage Compensation Purge Gas Inlet Kit regulator is 1/4-18 FNPT.

The second size we offer is our Medium Automatic Leakage Compensation Purge Gas Inlet Kit for enclosures with volumes up to 75 cubic feet (2,125 liters). Model number PSO-MALC-D1A is our medium, Division, 115VAC, aluminum version, model number PSO-MALC-D2A is our medium, Division, 230VAC, aluminum version, model number PSO-MALC-D1S is our medium, Division, 115VAC, stainless steel version and model number PSO-MALC-D2S is our medium, Division, 230VAC, stainless steel version. Model number PSO-MALC-Z1A is our medium, Zone, 115VAC, aluminum version, model number PSO-MALC-Z2A is our medium, Zone, 230VAC, aluminum version, model number PSO-MALC-Z1S is our medium, Zone, 115VAC, stainless steel version and model number PSO-MALC-Z2S is our medium, Zone, 230VAC, stainless steel version. Purge gas supply inlet to Medium Automatic Leakage Compensation Purge Gas Inlet Kit regulator is 3/8-18 FNPT.

The third size we offer is our Large Automatic Leakage Compensation Purge Gas Inlet Kit for enclosures with volumes up to 200 cubic feet (5,663 liters). Model number PSO-LALC-D1A is our large, Division, 115VAC, aluminum version, model number PSO-LALC-D2A is our large, Division, 230VAC, aluminum version, model number PSO-LALC-D1S is our large, Division, 115VAC, stainless steel version and model number PSO-LALC-D2S is our large, Division, 230VAC, stainless steel version. Model number PSO-LALC-Z1A is our large, Zone, 115VAC, aluminum version, model number PSO-LALC-Z2A is our large, Zone, 230VAC, aluminum version, model number PSO-LALC-Z1S is our large, Zone, 115VAC, stainless steel version and model number PSO-LALC-Z2S is our large, Zone, 230VAC, stainless steel version. Purge gas supply inlet to Large Automatic Leakage Compensation Purge Gas Inlet Kit regulator is 1/2-14 FNPT. All Automatic Leakage Compensation Purge Gas Inlet Kits include input solenoid valve, fittings, regulator, gauge and manifold block.

Review all of the material in this manual prior to installing and interfacing the Automatic Leakage Compensation Purge Gas Inlet Kit to the enclosure it will be supplying purge gas. If you have any questions, please contact your local Purge Solutions representative or the factory (refer Getting Help page 62) or view installation video, which can be found on our web site www.purgesolutions.com. Refer to Small Automatic Leakage Compensation Purge Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-SALC (page 31), Medium Automatic Leakage Compensation Purge Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-MALC (page 32) or Large Automatic Leakage Compensation Purge Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-LALC (page 33) for over all unit dimensions, hole sizes and locations required to interface and mount system to enclosure.

Step 1:

Make sure that area surrounding the enclosure the Automatic Leakage Compensation Purge Gas Inlet Kit to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Automatic Leakage Compensation Purge Gas Inlet Kit will be installed.

Step 3:

Choose a mounting location for the Automatic Leakage Compensation Purge Gas Inlet Kit on the enclosure in a location that would best dilute enclosure as specified in the type X, Y or Z purge unit users manual for lighter or heavier than air hazardous material for single or multiple enclosure applications. The chosen location should permit adequate viewing of the Automatic Leakage Compensation Purge Gas Inlet Kit pressure gauge and interface with pressure regulator for required adjustment.

Step 4:

Use Mounting Hole Pattern (drawing number PSO-SALC, page 31, PSO-MALC, page 32 or PSO-LALC, page 33) to accurately locate the mounting holes. Use the Mounting Hole Template to draw and a 1 to 1 scale drawing. Tape the 1 to 1 drawing to the ***outside*** of enclosure. The required hole locations can then be transferred and/or marked using the centers of the holes as shown on the 1 to 1 drawing.

Step 5:

Drill or punch all holes, per the sizes specified on the Mounting Hole Pattern (drawing number PSO-SALC, page 31, PSO-MALC, page 32 or PSO-LALC, page 33).

Step 6:

After required mounting holes have been drilled or punched into enclosure, align the Automatic Leakage Compensation Purge Gas Inlet Kit to the mounting holes fabricated in Step 5.

Step 7:

Using the interface fitting provided with the unit, mount the Automatic Leakage Compensation Purge Gas Inlet Kit to enclosure. Tighten fittings until the o-ring seal is completely compressed against the surface of the enclosure.

Step 8:

After Automatic Leakage Compensation Purge Gas Inlet Kit fittings have been properly tightened to enclosure, install solenoid valve as shown in (drawing number PSO-SALC, page 31, PSO-MALC, page 32 or PSO-LALC, page 33).

Power Source Specification
115 Volt Model: 85 to 160 VAC, 47 to 63 Hz 230 Volt Model: 190 to 265 VAC, 47 to 63 Hz
Use 16 AWG stranded, 3 conductor copper or tin-plated copper power wire rated for at least 250 VAC, of the required length.

WARNING: ***This apparatus must be earth grounded!***

CAUTION: ***Electrical power must be free of spikes, sags, surges, or electrical noise.***

Power Connection From Type X – Purge Controller To Automatic Leakage Compensation Purge Gas Inlet Kit Solenoid Valve	
WIRE	**PURGE CONTROLLER TERMINAL NUMBER**
Hot 1 or + Supply	Terminal Block - 1 Position - 7
Neutral or Hot 2 Or Return	Terminal Block - 1 Position - 8
Ground, Earth, or Chassis	Terminal Block - 1 Position - 9

Step 9:

With solenoid valve mounted, Install properly rated cable connection in the 1/2 - 14 FNPT holes located on the Purge Controller and to the Automatic Leakage Compensation Purge Gas Inlet Kit. Plug any 1/2 - 14 FNPT holes not used with properly certified plugs rated for hazardous area location.

WARNING: ***Poured seals, conduit, cable glands, cable and hole plugs should not be installed in a hazardous area classification for which it is not rated.***

NOTE: ***For Division 1 installations when selecting enclosure Purge Controller will be installed insure that there is enough space available for poured seals and associated conduit bringing power from Purge Controller housing to Automatic Leakage Compensation Purge Gas Inlet Kit.***

NOTE: ***For Division 1 installations conduit must be sealed within 18 inches of Purge Controller housing and the Automatic Leakage Compensation Purge Gas Inlet Kit. All cable entries in Automatic Leakage Compensation Purge Gas Inlet Kit solenoid valve are 1/2-14 NPT.***

NOTE: ***For Zone 1 installations when selecting enclosure Purge Controller and Automatic Leakage Compensation Purge Gas Inlet Kit will be installed insure that there is enough space available for cable glands and associated cable bringing power from Purge Controller housing to Automatic Leakage Compensation Purge Gas Inlet Kit.***

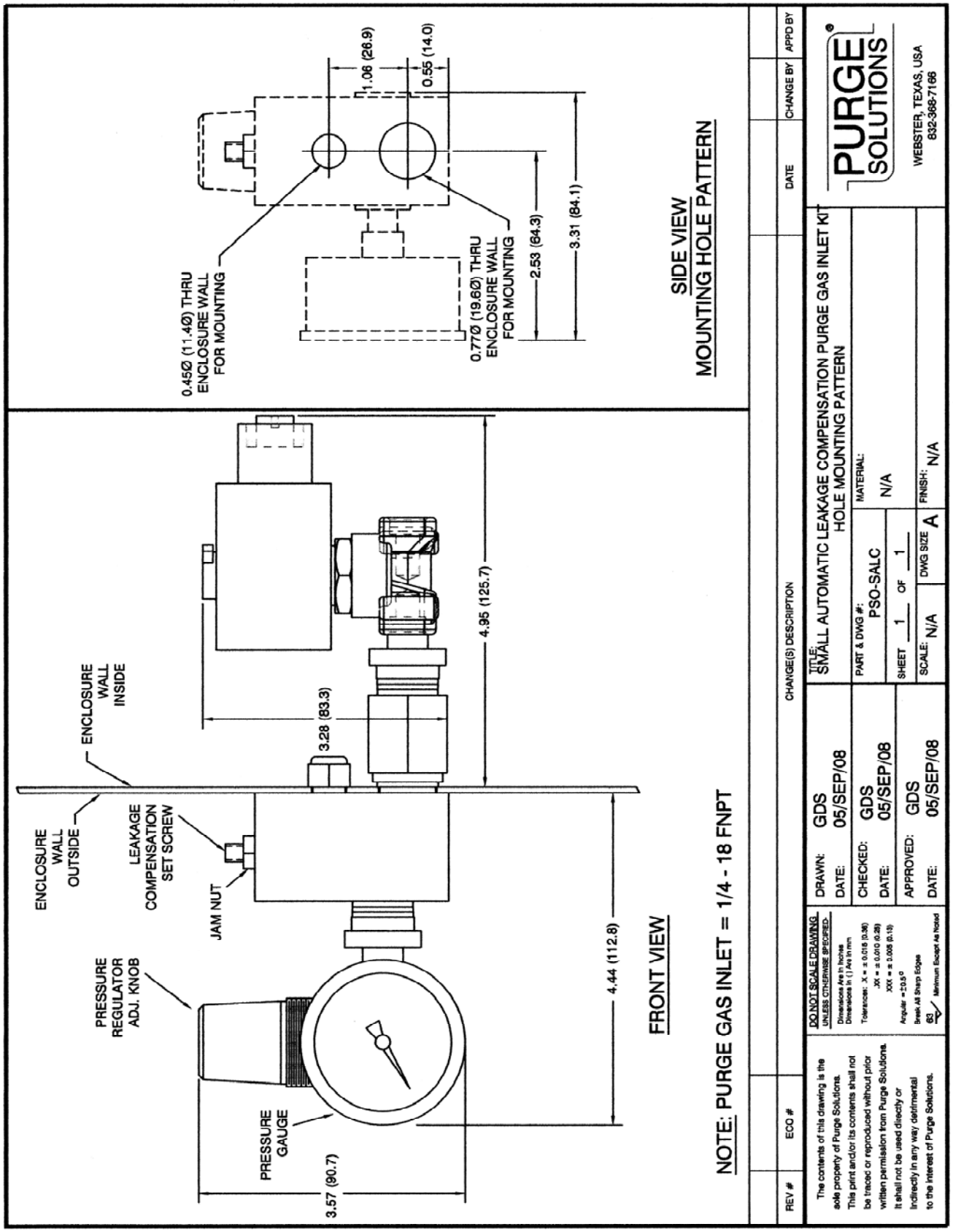
NOTE: ***For Zone 1 installations cable must be sealed at Purge Controller housing and Automatic Leakage Compensation Purge Gas Inlet Kit. All cable entries in Automatic Leakage Compensation Purge Gas Inlet Kit solenoid valve are 1/2-14 NPT.***

Step 10:

After Automatic Leakage Compensation Purge Gas Inlet Kit fittings have been properly tightened, connect supply purge gas to the pressure regulator inlet port of the Automatic Leakage Compensation Purge Gas Inlet Kit. Refer to drawing number PSO-SALC, page 31, PSO-MALC, page 32 or PSO-LALC, page 33) for purge gas supply inlet size.

Step 11:

Once the purge gas supply has been connected to the pressure regulator inlet port of the Automatic Leakage Compensation Purge Gas Inlet Kit, it is ready to supply purge gas to the enclosure.


SIDE VIEW
MOUNTING HOLE PATTERN
0.450Ø (11.40) THRU
ENCLOSURE WALL
FOR MOUNTING
0.770Ø (19.60) THRU
ENCLOSURE WALL
FOR MOUNTING
1.06 (26.9)
0.55 (14.0)
2.53 (64.3)
3.31 (84.1)
FRONT VIEW
ENCLOSURE
WALL
INSIDE
ENCLOSURE
WALL
OUTSIDE
LEAKAGE
COMPENSATION
SET SCREW
JAM NUT
PRESSURE
REGULATOR
ADJ. KNOB
PRESSURE
GAUGE
3.28 (83.3)
4.95 (125.7)
4.44 (112.8)
3.57 (90.7)
NOTE: PURGE GAS INLET = 1/4 - 18 FNPT
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APPD BY
DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED:
Dimensions Are In Inches
Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted
DRAWN: GDS
DATE: 05/SEP/08
CHECKED: GDS
DATE: 05/SEP/08
APPROVED: GDS
DATE: 05/SEP/08
TITLE:
SMALL AUTOMATIC LEAKAGE COMPENSATION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN
PART & DWG #:
PSO-SALC
MATERIAL:
N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A
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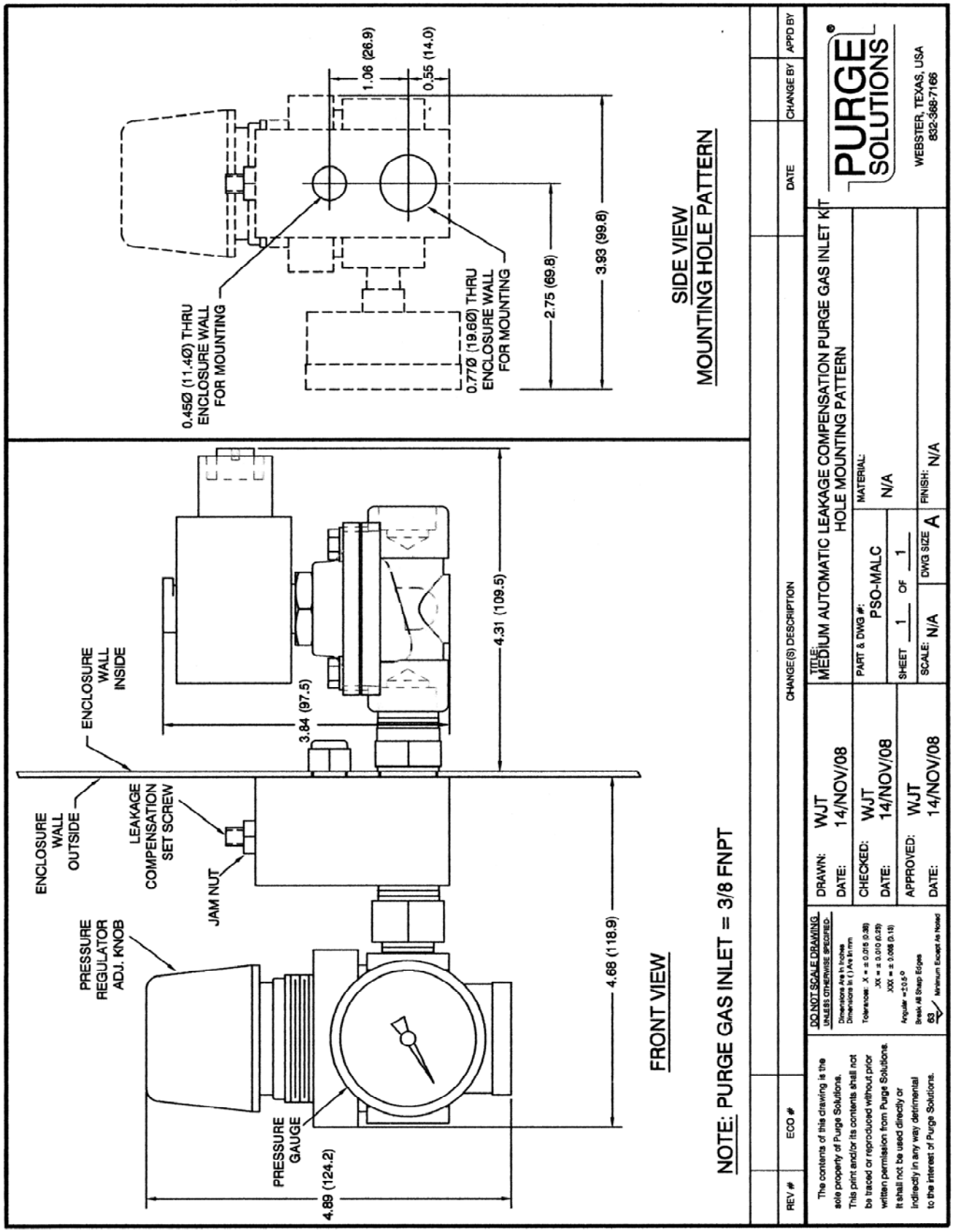
SIDE VIEW
MOUNTING HOLE PATTERN
0.450Ø (11.40) THRU
ENCLOSURE WALL
FOR MOUNTING
0.770Ø (19.60) THRU
ENCLOSURE WALL
FOR MOUNTING
1.06 (26.9)
0.55 (14.0)
2.75 (69.8)
3.93 (99.8)
NOTE: PURGE GAS INLET = 3/8 FNPT
FRONT VIEW
ENCLOSURE WALL OUTSIDE
LEAKAGE COMPENSATION SET SCREW
JAM NUT
PRESSURE REGULATOR ADJ. KNOB
PRESSURE GAUGE
ENCLOSURE WALL INSIDE
3.84 (97.5)
4.31 (109.5)
4.68 (118.9)
4.89 (124.2)
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APP'D BY
DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
Dimensions Are In: Inches
Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ± 0.5 °
Break All Sharp Edges
63 Minimum Except As Noted
DRAWN: WJT
DATE: 14/NOV/08
CHECKED: WJT
DATE: 14/NOV/08
APPROVED: WJT
DATE: 14/NOV/08
TITLE: MEDIUM AUTOMATIC LEAKAGE COMPENSATION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN
PART & DWG #: PSO-MALC
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A
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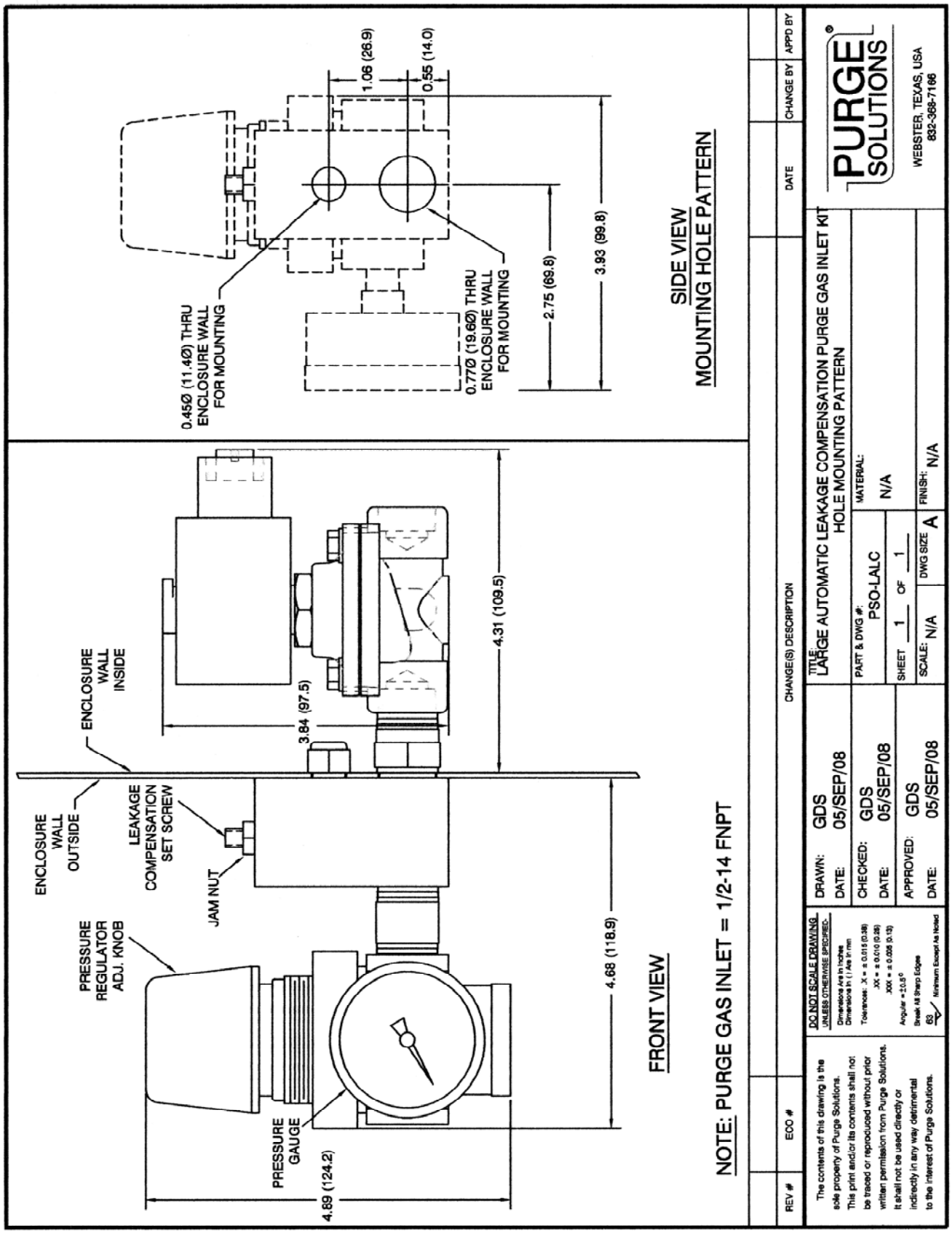
SIDE VIEW
MOUNTING HOLE PATTERN
0.450Ø (11.40) THRU
ENCLOSURE WALL
FOR MOUNTING
0.770Ø (19.60) THRU
ENCLOSURE WALL
FOR MOUNTING
1.06 (26.9)
0.55 (14.0)
2.75 (69.8)
3.93 (99.8)
FRONT VIEW
NOTE: PURGE GAS INLET = 1/2-14 FNPT
ENCLOSURE
WALL
INSIDE
ENCLOSURE
WALL
OUTSIDE
LEAKAGE
COMPENSATION
SET SCREW
JAM NUT
PRESSURE
REGULATOR
ADJ. KNOB
PRESSURE
GAUGE
3.84 (97.5)
4.31 (109.5)
4.68 (118.9)
4.89 (124.2)
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APPD BY
DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
Dimensions Are In Inches
Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted
DRAWN: GDS
DATE: 05/SEP/08
CHECKED: GDS
DATE: 05/SEP/08
APPROVED: GDS
DATE: 05/SEP/08
TITLE:
LARGE AUTOMATIC LEAKAGE COMPENSATION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN
PART & DWG #:
PSO-LALC
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
MATERIAL:
N/A
FINISH: N/A
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Back-Up Vent Installation Procedure:

To protect the enclosure from over pressure; Purge Solutions offers three sizes of back-up vents. The first size is our Small Back–Up Vent for enclosures with a volume up to 15 cubic feet (425 liters). Model number PSO-SBUV-S is our small side mount version and model number PSO-SBUV-T is our small top mount version.

The second size we offer is our Medium Back-Up Vent for enclosures with volumes up to 75 cubic feet (2,125 liters). Model number PSO-MBUV-S is our medium side mount version and model number PSO-MBUV-T is our medium top mount version.

The third size we offer is our Large Back-Up Vent for enclosures with volumes up to 200 cubic feet (5,663 liters). Model number PSO-LBUV-S is our large side mount version and model number PSO-LBUV-T is our large top mount version. All Back-Up Vents are constructed of 316 stainless steel and come with all mounting hardware.

The Small, Medium and Large Back-Up Vents have a cracking pressure between 0.8 to 1.0 inch H2O (2.0 to 2.5 mbar).

Review all of the material in this manual prior to installing and interfacing the Back-Up Vent to the enclosure. If you have any questions, please contact your local Purge Solutions representative or the factory (refer Getting Help page 62). Refer to Small Back-Up Vent Side Mount, drawing number PSO-SBUV-S (page 36) or Small Back-Up Vent Top Mount, drawing number PSO-SBUV-T (page 37) or Medium Back-Up Vent Side Mount, drawing number PSO-MBUV-S (page 38) or Medium Back-Up Vent Top Mount, drawing number PSO-MBUV-T (page 39) or Large Back-Up Vent Side Mount, drawing number PSO-LBUV-S (page 40) or Large Back-Up Vent Top Mount, drawing number PSO-LBUV-T (page 41) for over all back up vent dimensions, hole sizes and locations required to interface and mount unit to enclosure.

Step 1:

Make sure that area surrounding the enclosure the Back-Up Vent to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Back-Up Vent will be installed.

Step 3:

Choose a mounting location for the Back-Up Vent on the enclosure in a location farthest from the purge supply gas inlet into the enclosure as specified in the type X, Y or Z purge unit users manual for lighter or heavier than air hazardous material for single or multiple enclosure application.

Step 4:

Drill or punch hole, per the sizes specified on drawing numbers PSO-SBUV-S, page 36 or PSO-SBUV-T, page 37 or PSO-MBUV-S, page 38 or PSO-MBUV-T, page 39 or PSO-LBUV-S, page 40 or PSO-LBUV-T, page 41.

Step 5:

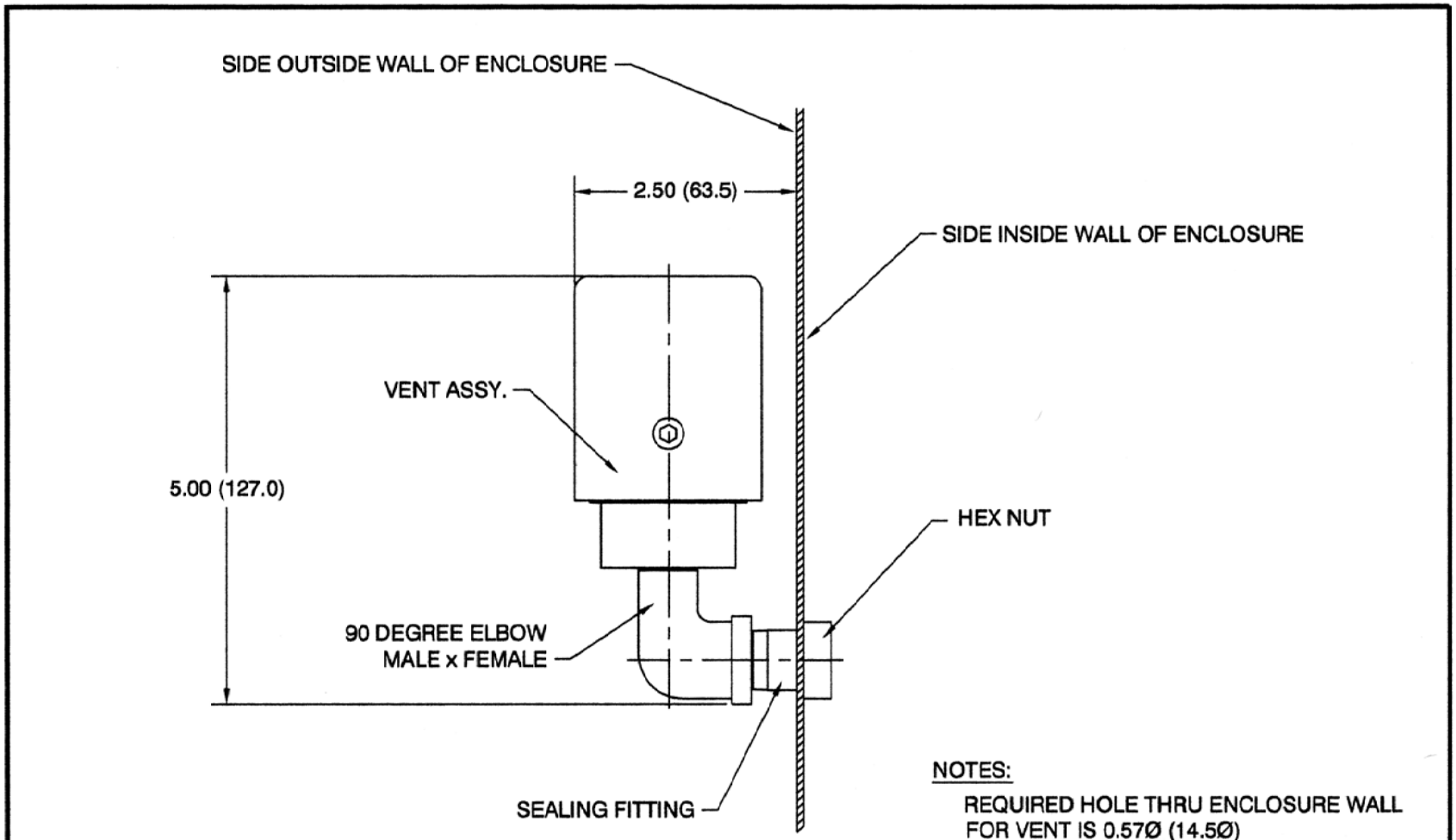
After required hole size has been drilled or punched into enclosure, align the Back-Up Vent to the mounting hole fabricated in Step 5.

Step 6:

Using the jam nut provided with the unit, mount the Back-Up Vent to enclosure. Tighten jam nut until the o-ring seal is completely compressed against the surface of the enclosure.

Step 7:

After the Back-Up Vent jam nut have been properly tightened, the Back-Up Vent is ready to protect the enclosure from overpressure.



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Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015
.XX = ± 0.010
.XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 02/JAN/04
CHECKED: WJT
DATE: 02/JAN/04
APPROVED: WJT
DATE: 02/JAN/04

TITLE: SMALL BACK-UP VENT KIT
SIDE MOUNT
PART & DWG #: PSO-SBUV-S
MATERIAL: NOTED
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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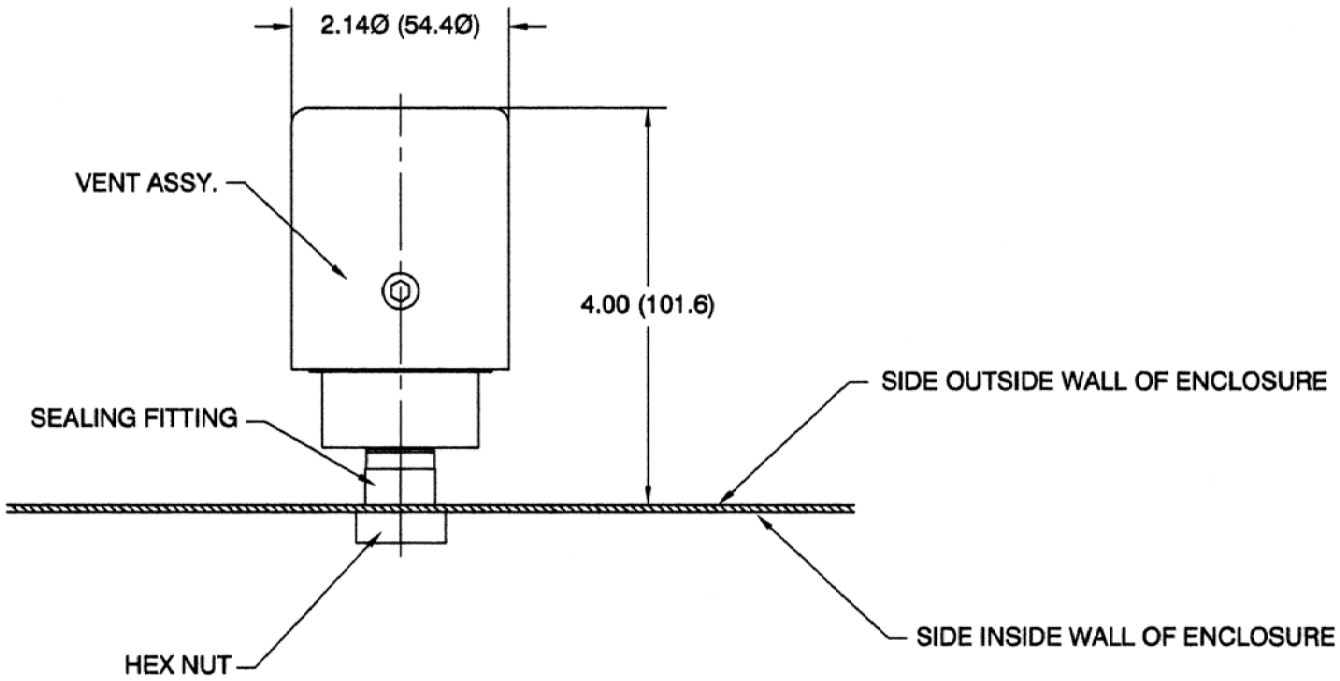

NOTES:

REQUIRED HOLE THRU ENCLOSURE WALL FOR VENT IS 0.57Ø (14.5Ø)

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.XX = ± 0.010
.XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT DATE: 02/JAN/04
CHECKED: WJT DATE: 02/JAN/04
APPROVED: WJT DATE: 02/JAN/04

TITLE: SMALL BACK-UP VENT KIT TOP MOUNT
PART & DWG #: PSO-SBUV-T
MATERIAL: NOTED
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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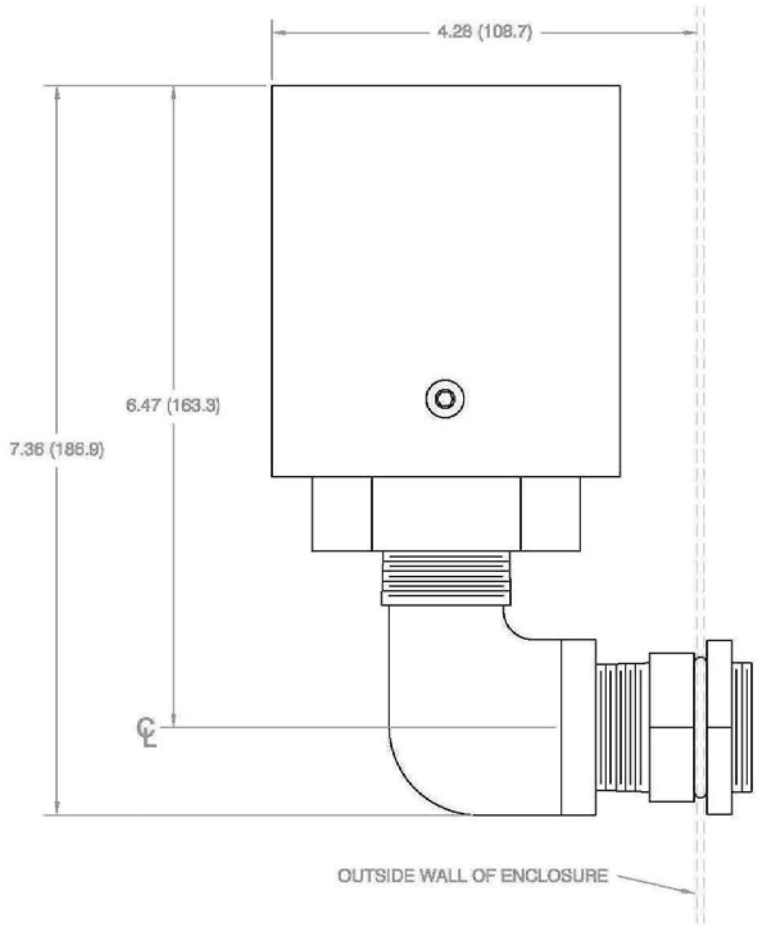

NOTES:

1. THROUGH HOLE FOR MOUNTING IS 1.31Ø (33.3Ø).

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

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Dimensions in ( ) Are in mm
Tolerances: X = ± 0.015
XX = ± 0.010
XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: SLM
DATE: 11/JUL/08

CHECKED: SLM
DATE: 11/JUL/08

APPROVED: SLM
DATE: 11/JUL/08

TITLE: MEDIUM BACK-UP VENT
SIDE MOUNT

PART & DWG #: PSO-MBUV-S

MATERIAL: N/A

SHEET 1 OF 1

SCALE: N/A

DWG SIZE A

FINISH: N/A

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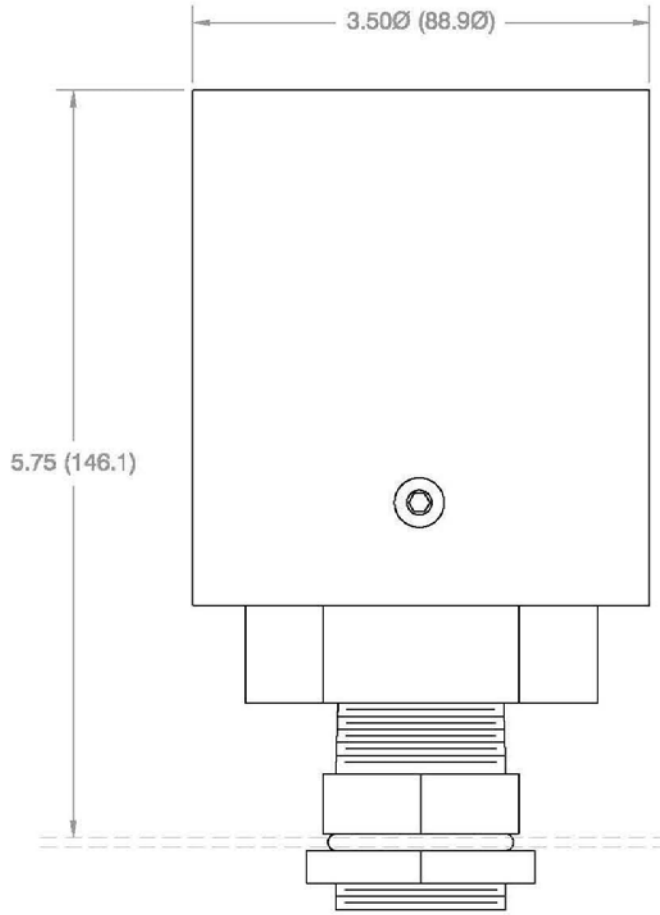

NOTES:

1. THROUGH HOLE SIZE FOR MOUNTING IS 1.31Ø (33.3Ø).

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

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DO NOT SCALE DRAWING
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Dimensions Are in inches
Dimensions in ( ) Are in mm
Tolerances: X = ± 0.015
XX = ± 0.010
XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: SLM
DATE: 11/JUL/08
CHECKED: SLM
DATE: 11/JUL/08
APPROVED: SLM
DATE: 11/JUL/08

TITLE: MEDIUM BACK-UP VENT
TOP MOUNT
PART & DWG #: PSO-MBUV-T
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
MATERIAL: N/A
FINISH: N/A

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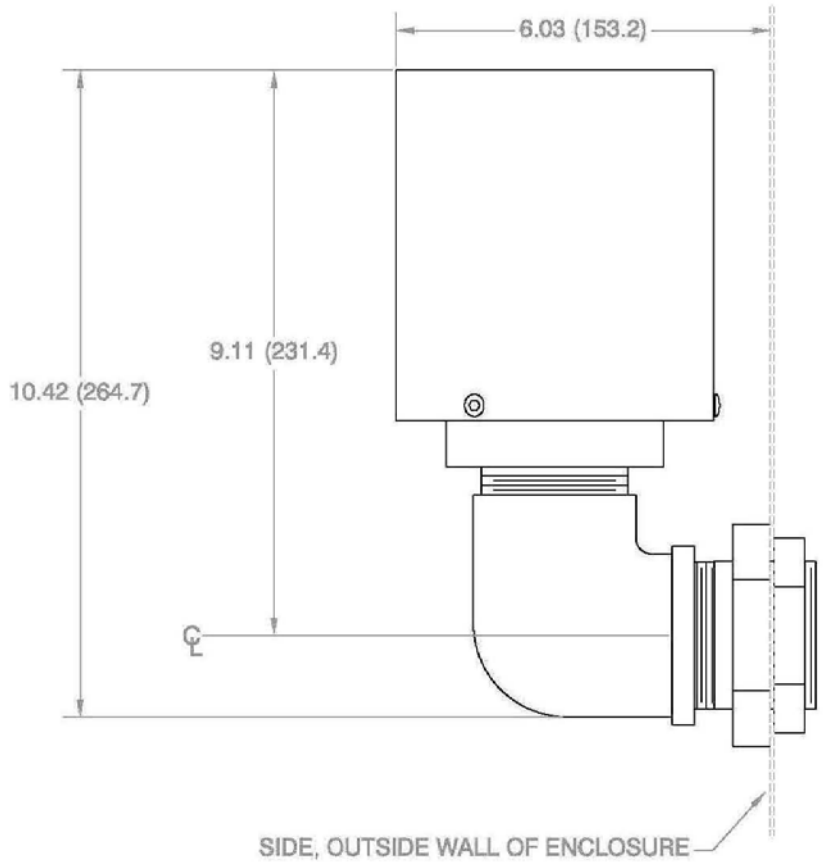

NOTES:

1. REQUIRED HOLE THRU ENCLOSURE WALL FOR VENT IS 2.38Ø (60.5Ø)

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

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DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED:
Dimensions Are in inches
Dimensions in ( ) Are in mm
Tolerances: X = ± 0.015
XX = ± 0.010
XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 16/OCT/09

CHECKED: WJT
DATE: 16/OCT/09

APPROVED: WJT
DATE: 16/OCT/09

TITLE: LARGE BACK-UP VENT
SIDE MOUNT

PART & DWG #: PSO-LBUV-S

MATERIAL: 316 STAINLESS STEEL

SHEET 1 OF 1

SCALE: N/A

DWG SIZE A

FINISH: N/A

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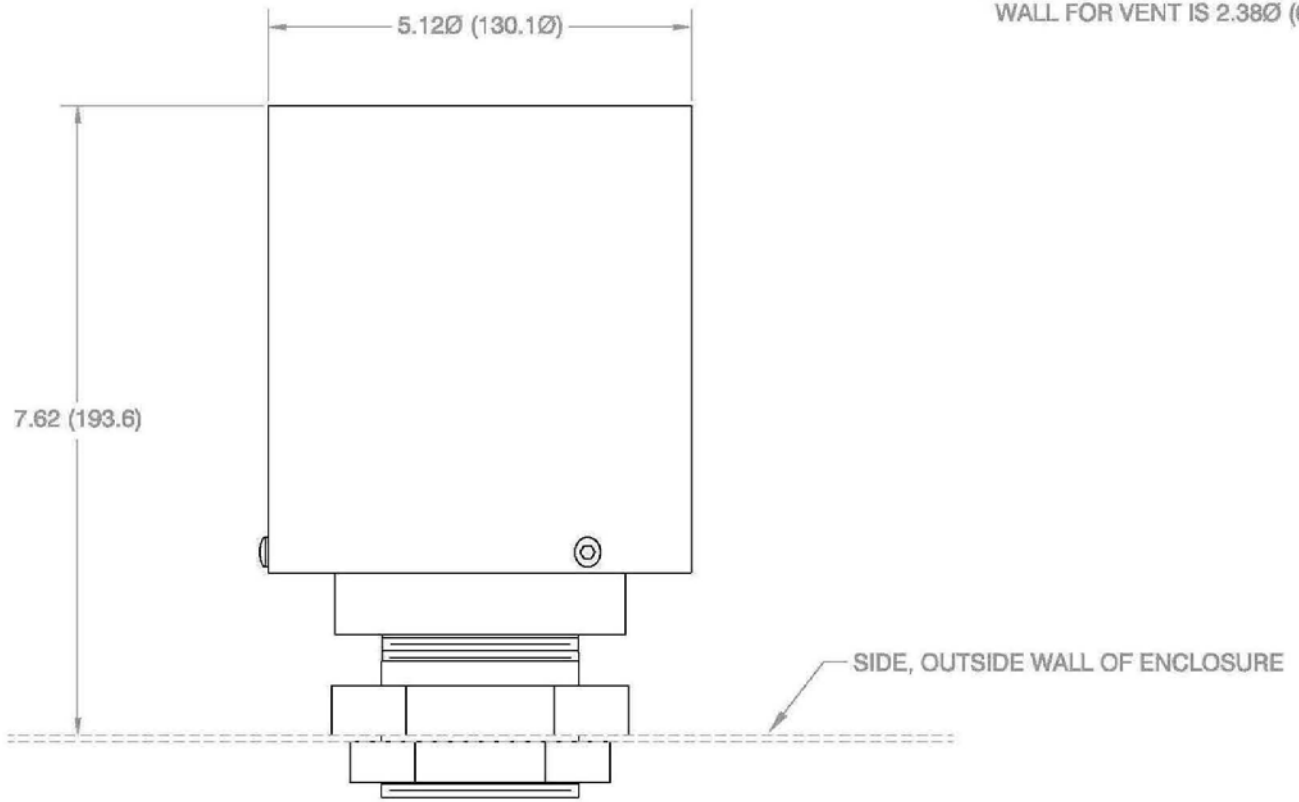
NOTES:

1. REQUIRED HOLE THRU ENCLOSURE WALL FOR VENT IS 2.38Ø (60.5Ø)



REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

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Tolerances: X = ± 0.015
XX = ± 0.010
XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 16/OCT/09

CHECKED: WJT
DATE: 16/OCT/09

APPROVED: WJT
DATE: 16/OCT/09

TITLE: LARGE BACK-UP VENT
TOP MOUNT

PART & DWG #: PSO-LBUV-T

SHEET 1 OF 1

SCALE: N/A

DWG SIZE A

MATERIAL: 316 STAINLESS STEEL

FINISH: N/A

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Back-Up Purge Gas Kit Installation Procedure:

In the event the initial protective purge gas supply is lost, this kit insures that a back up source of protective purge gas is automatically applied to the protected enclosure. Purge Solutions model number PSO-BUPG-K has inlets and outlet which are 3/8 – 18 FNPT.

NOTE: The Back-Up Purge Gas Kit requires a minimum air supply pressure of 80 psig (5.5 bar) to function properly.

Review all of the material in this manual prior to installing and interfacing Back-Up Purge Gas Kit. If you have any questions, please contact your local Purge Solutions representative or the factory (refer Getting Help page 62). Refer to Back-Up Vent Gas Kit, drawing number PSO-BUVG-K (page 44) gas line sizes and locations required to interface and mount unit to purge gas system.

Step 1:

Make sure that area surrounding the enclosure the Back-Up Purge Gas Kit to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Back-Up Purge Gas Kit will be installed.

Step 3:

Choose a mounting location for the Back-Up Purge Gas Kit on or near the enclosure in a location that the purge supply gas lines can be viewed and serviced.

Step 4:

After Back-Up Purge Gas Kit has been properly installed, connect a 3/8-18 FNPT fitting from the primary purge gas supply to normally closed port as illustrated in Back-Up Vent Gas Kit, drawing number PSO-BUVG-K (page 44).

Step 5:

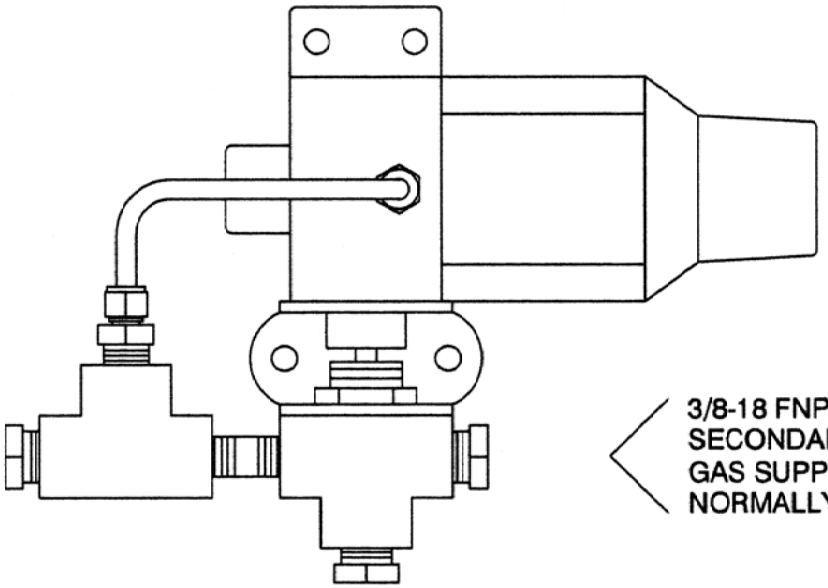
After Back-Up Purge Gas Kit primary purge gas supply has been connected, connect a 3/8-18 FNPT fitting from the secondary purge gas supply to normally opened port as illustrated in Back-Up Purge Gas Kit, drawing number PSO-BUVG-K (page 44).

Step 6:

After Back-Up Purge Gas Kit secondary purge gas supply has been connected, connect a 3/8-18 FNPT fitting from the Back-Up Purge Gas Kit protective purge gas supply out to supply enclosure with purge gas as illustrated in Back-Up Purge Gas Kit, drawing number PSO-BUVG-K (page 44).

Step 7:

After all 3/8-18 FNPT fitting have been properly tightened, the Back-Up Purge Gas Kit is ready to protect the enclosure from primary purge gas loss.



3/8-18 FNPT
PRIMARY PROTECTIVE
GAS SUPPLY IN
NORMALLY CLOSED

3/8-18 FNPT
SECONDARY PROTECTIVE
GAS SUPPLY IN
NORMALLY OPEN

3/8-18 FNPT
PROTECTIVE GAS
SUPPLY OUT
TO ENCLOSURE

REV #	ECC #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

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Tolerances: .X = ± 0.015
.XX = ± 0.010
.XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 21/JUN/02

CHECKED: WJT
DATE: 21/JUN/02

APPROVED: WJT
DATE: 21/JUN/02

TITLE: BACK-UP PURGE GAS KIT ILLUSTRATION DRAWING

PART & DWG #: PSO-BUPG-K

MATERIAL: N/A

SHEET 1 OF 1

SCALE: N/A

DWG SIZE A

FINISH: N/A

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Protective Gas Loss Indicator Kit Installation Procedure:

An explosion-proof differential pressure switch may be installed to provide an alarm contact output signal to indicate the loss of primary purge gas supply. While a second can be installed to provide loss of back-up purge gas. Model number is PSO-PGLI-K.

Review all of the material in this manual prior to installing and interfacing Protective Gas Loss Indicator Kit. Please contact your local Purge Solutions representative or the factory (refer Getting Help page 62) for current installation information.

Differential Pressure Gauge Kit Installation Procedure:

Purge Solutions also offers an all stainless steel Differential Pressure Gauge Kit, which can be mounted on the side, top or bottom of an enclosure. Model number PSO-DPG-L is our left side mount version, model number PSO-DPG-R is our right side mount version, model number PSO-DPG-T is our top mount version and model number PSO-DPG-B is our bottom mount version.

Review all of the material in this manual prior to installing and interfacing Differential Pressure Gauge Kit. If you have any questions, please contact your local Purge Solutions representative or the factory (refer Getting Help page 62). Refer to Differential Pressure Gauge Kit, bottom mount, drawing number PSO-DPG-B (page 48), Differential Pressure Gauge Kit, left side mount, drawing number PSO-DPG-L (page 49), Differential Pressure Gauge Kit, right side mount, drawing number PSO-DPG-R (page 50) or Differential Pressure Gauge Kit, top mount, drawing number PSO-DPG-T (page 51) hole sizes and locations required to interface and mount unit to enclosure.

All Differential Pressure Gauge Kits mounting bracket, fittings, tubing and mounting hardware are constructed of 316 stainless steel. Differential pressure gauge housing is constructed of glass filled nylon with a polycarbonate lens. Differential pressure gauge range is 0 to 1 inch H2O in 0.1 inch H2O increments with a working temperature range of 20ºF (6.6ºC) to + 120ºF (+ 48.9ºC)

Step 1:

Make sure that area surrounding the enclosure the Differential Pressure Gauge Kit to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Differential Pressure Gauge Kit will be installed.

Step 3:

Choose a mounting location for the Differential Pressure Gauge Kit on the enclosure. The chosen location should permit adequate viewing of the Differential Pressure Gauge Kit pressure gauge and interface for servicing.

Step 4:

Use Mounting Hole Pattern (drawing number PSO-DPG-B, page 48, PSO-DPG-L, page 49, PSO-DPG-R, page 50 or PSO-DPG-T, page 51) to accurately locate the mounting holes. Use the Mounting Hole Template to draw a 1 to 1 scale drawing. Tape the 1 to 1 scale drawing to the ***outside*** of enclosure. The required hole locations can then be transferred and / or marked using the centers of the holes as shown on the 1 to 1 scale drawing.

Step 5:

Drill or punch all holes, per the sizes specified on the Mounting Hole Pattern (drawing number PSO-DPG-B, page 48, PSO-DPG-L, page 49, PSO-DPG-R, page 50 or PSO-DPG-T, page 51).

Step 6:

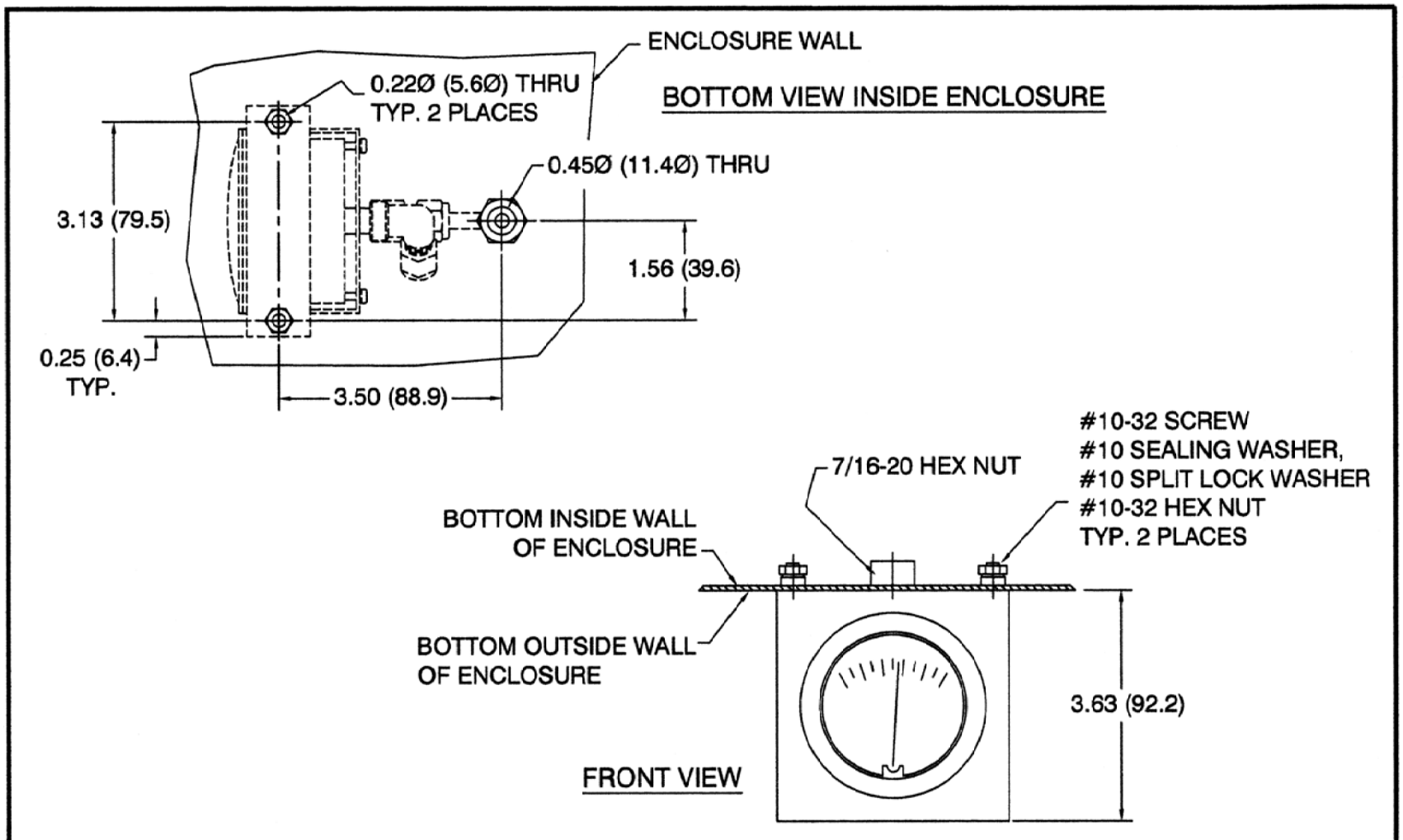
After required mounting holes have been drilled or punched into enclosure, align the Differential Pressure Gauge Kit to the mounting holes fabricated in Step 5.

Step 7:

Using the fastening hardware provided with the unit, mount the Differential Pressure Gauge Kit to enclosure. Tighten fastening hardware until all seals are completely compressed against the surface of the enclosure.

Step 8:

After all Differential Pressure Gauge Kit fastening hardware has been properly tightened, the Differential Pressure Gauge Kit is ready to monitor the enclosure internal purge pressure.



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Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 15/APR/06
CHECKED: WJT
DATE: 15/APR/06
APPROVED: WJT
DATE: 15/APR/06

TITLE: DIFFERENTIAL PRESSURE GAUGE KIT
BOTTOM MOUNTING ASSEMBLY
PART & DWG #: PSO-DPG-B
MATERIAL: NOTED
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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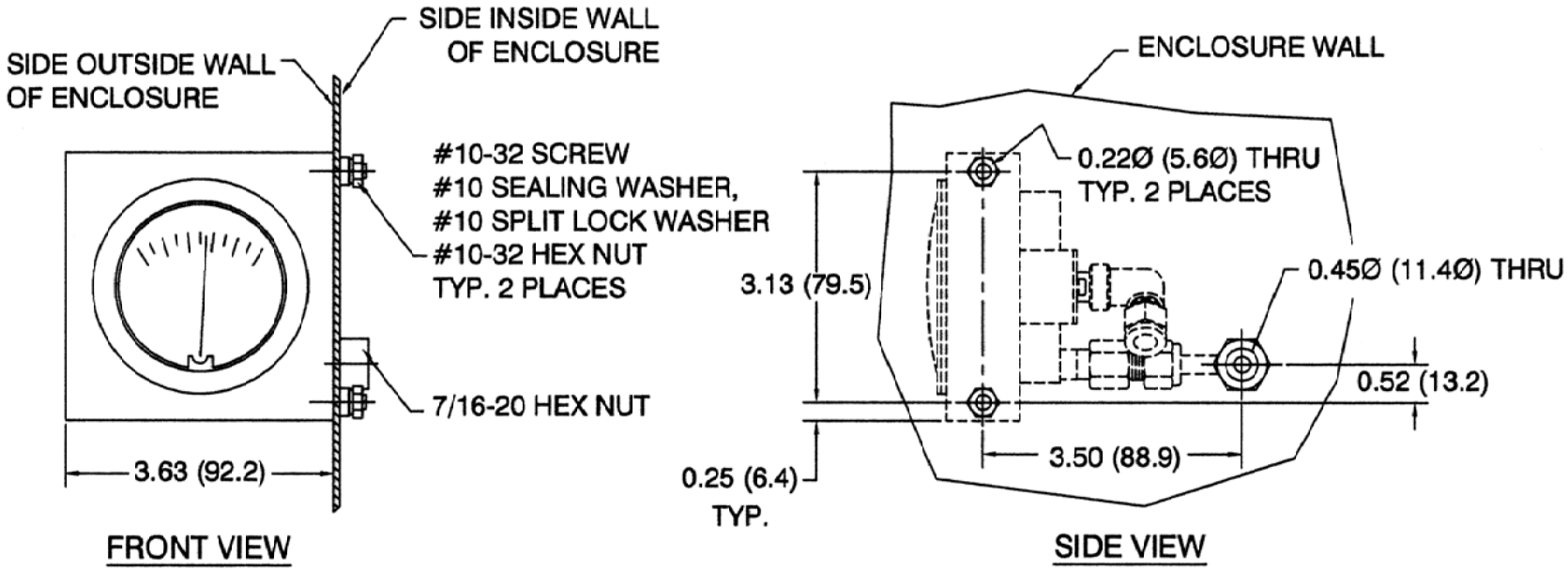

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

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Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 15/APR/06
CHECKED: WJT
DATE: 15/APR/06
APPROVED: WJT
DATE: 15/APR/06

TITLE: DIFFERENTIAL PRESSURE GAUGE KIT
LEFT SIDE MOUNTING ASSEMBLY

PART & DWG #: PSO-DPG-L
MATERIAL: NOTED
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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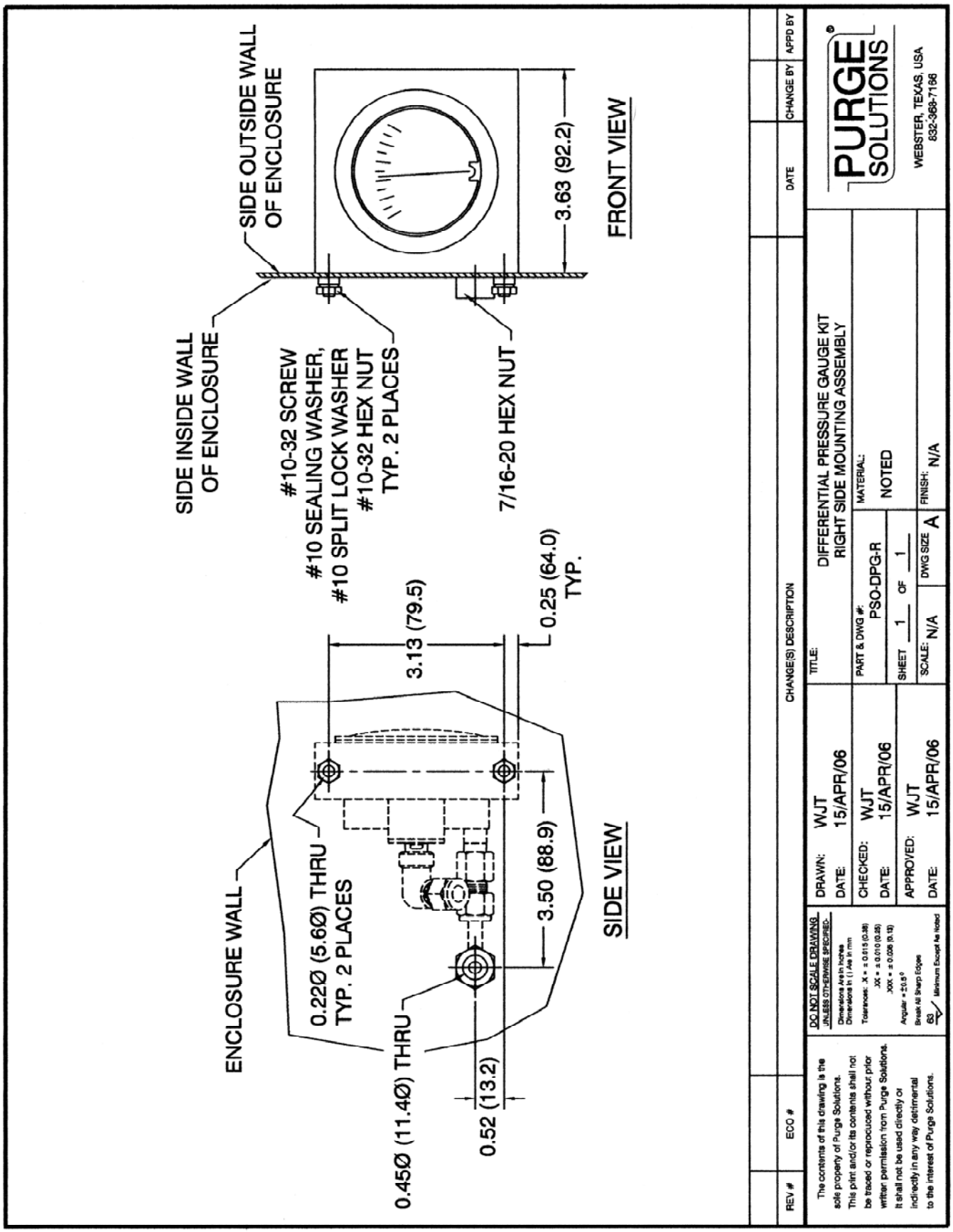
SIDE OUTSIDE WALL
OF ENCLOSURE
SIDE INSIDE WALL
OF ENCLOSURE
#10-32 SCREW
#10 SEALING WASHER,
#10 SPLIT LOCK WASHER
#10-32 HEX NUT
TYP. 2 PLACES
7/16-20 HEX NUT
3.63 (92.2)
FRONT VIEW
3.13 (79.5)
0.25 (64.0)
TYP.
ENCLOSURE WALL
0.22Ø (5.6Ø) THRU
TYP. 2 PLACES
0.45Ø (11.4Ø) THRU
3.50 (88.9)
0.52 (13.2)
SIDE VIEW
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APPD BY
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.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted
DRAWN: WJT
DATE: 15/APR/06
CHECKED: WJT
DATE: 15/APR/06
APPROVED: WJT
DATE: 15/APR/06
TITLE:
DIFFERENTIAL PRESSURE GAUGE KIT
RIGHT SIDE MOUNTING ASSEMBLY
PART & DWG #:
PSO-DPG-R
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
MATERIAL:
NOTED
FINISH: N/A
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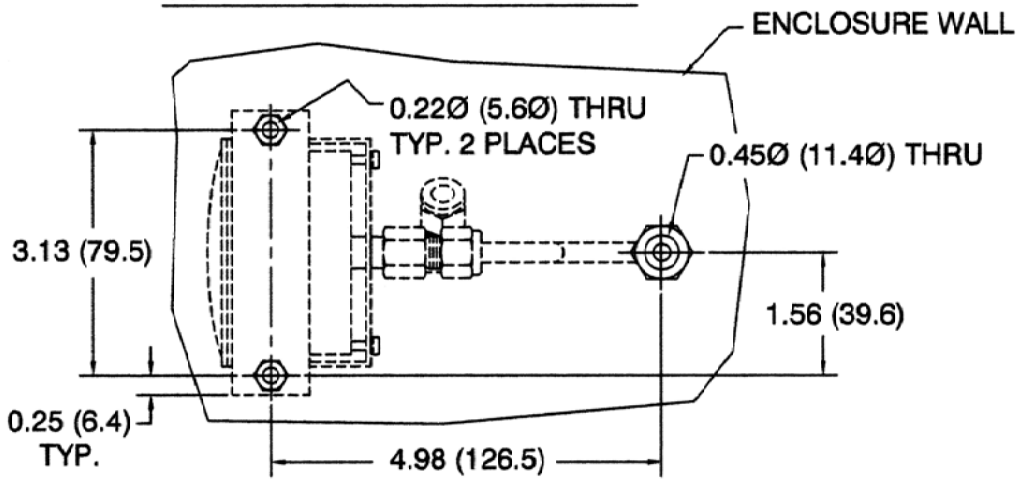
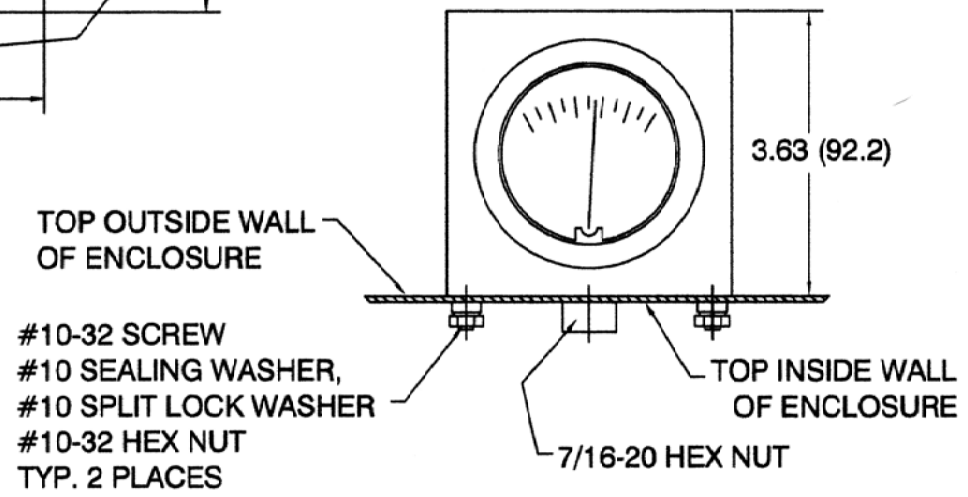
TOP VIEW INSIDE ENCLOSURE



FRONT VIEW



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.XXX = ± 0.005 (0.13)
Angular = ± 0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 15/APR/06
CHECKED: WJT
DATE: 15/APR/06
APPROVED: WJT
DATE: 15/APR/06

TITLE: DIFFERENTIAL PRESSURE GAUGE KIT
TOP MOUNTING ASSEMBLY

PART & DWG #: PSO-DPG-T
MATERIAL: NOTED
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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Vortex Cabinet Cooler System Installation Procedure:

For applications where thermal management of electrical cabinets and control panels is required; Purge Solutions offers Continuous Operation or Thermostat Controlled Vortex Cabinet Cooler Systems, which can provide cooling capacities to meet your application requirements and maintain a NEMA 4X (IP66) rating.

Continuous Operation Vortex Cabinet Cooler Systems can be used to introduce purge gas into the enclosure in place of one of our purge gas inlet kits as the Continuous Operation Vortex Cabinet Cooler System is continually supplying enclosure with compressed air.

Thermostat Controlled Vortex Cabinet Cooler Systems use a thermostat, which limits compressed air usage to times when cooling of the enclosure is required. Thermostat Controlled Vortex Cabinet Cooler Systems are used with one of our purge gas inlet kits as the Thermostat Controlled Vortex Cabinet Cooler System is supplying enclosure only when cooling is required.

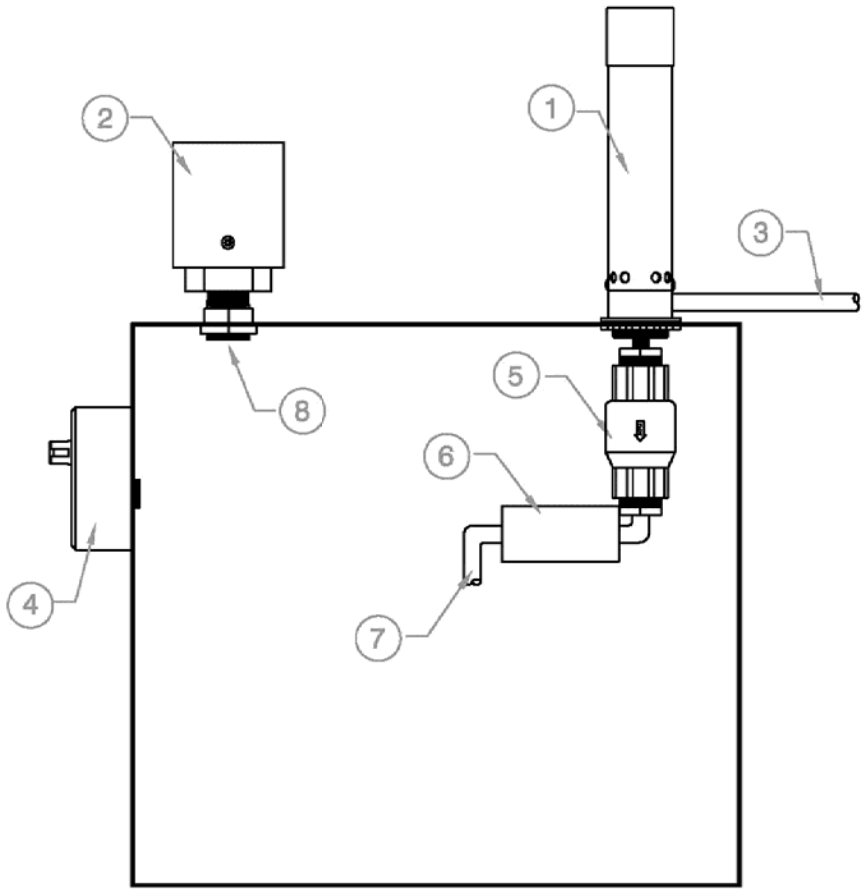
NOTE: There are special modifications and sizing requirements to be made before Vortex Cabinet Cooler Systems are able to be installed and used in a hazardous area.

NOTE: For optimal cooling all Vortex Cabinet Cooler Systems are designed to use compressed air supply of 80 – 100 psig (5.5 – 6.9 bar).

The optional assemblies available are as follows: page 53 is a representative assembly drawing of a Continuous Operation Vortex Cabinet Cooler System ***(as the Continuous Operation Vortex Cabinet Cooler System will continuously supplying instrument grade air at a pressure well above what is required for purged / pressurized enclosures, it is able to take the place of our Continuous Dilution Purge Gas Inlet Kits)***.

Page 54 is a representative assembly drawing of a Thermostat Controlled Vortex Cabinet Cooler System. Select which Vortex Cabinet Cooler System will best work for your application, then contact your local Purge Solutions representative or the factory (refer Getting Help page 62) for sizing of system and installation information.

NOTE: Exact number and size of components for each Vortex Cabinet Cooler System application will depend on BTUH cooling requirements.



NOTES:

1. MODIFIED VORTEX CABINET COOLER FOR HAZARDOUS AREA INSTALLATION AND USE.
2. ENCLOSURE EXHAUST VENT WITH REQUIRED SPARK ARRESTOR.
3. INSTRUMENT GRADE AIR TO VORTEX CABINET COOLER.
4. PURGE UNIT.
5. CHECK VALVE.
6. OPTIONAL COLD AIR MUFFLER.
7. PURGE GAS AND COLD AIR INTO ENCLOSURE.
8. PURGE GAS AND COLD AIR EXHAUSTED FROM ENCLOSURE.

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.XX = ± 0.010
.XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 11/MAY/11
CHECKED: WJT
DATE: 11/MAY/11
APPROVED: WJT
DATE: 11/MAY/11

TITLE: CONTINUOUS OPERATION VORTEX CABINET COOLER SYSTEM
PART & DWG #: DO-11144-B
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
MATERIAL: NOTED
FINISH: N/A

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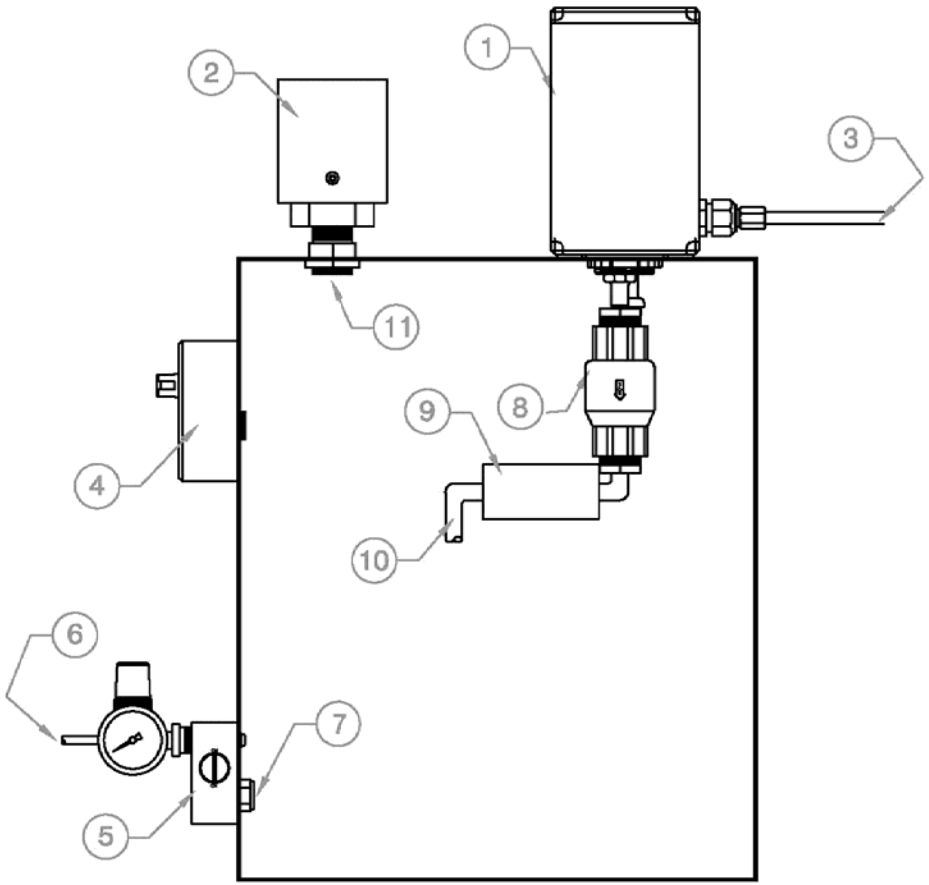

NOTES:

1. MODIFIED VORTEX CABINET COOLER WITH MECHANICAL THERMOSTAT FOR HAZARDOUS AREA INSTALLATION AND USE.
2. ENCLOSURE EXHAUST VENT WITH REQUIRED SPARK ARRESTOR.
3. INSTRUMENT GRADE AIR TO VORTEX CABINET COOLER.
4. PURGE UNIT.
5. PURGE GAS INLET KIT.
6. PURGE GAS TO PURGE GAS INLET KIT.
7. PURGE GAS INTO ENCLOSURE.
8. CHECK VALVE.
9. OPTIONAL COLD AIR MUFFLER.
10. COLD AIR INTO ENCLOSURE.
11. PURGE GAS AND COLD AIR EXHAUSTED FROM ENCLOSURE.

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

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XX = ± 0.010
XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 14/DEC/09
CHECKED: WJT
DATE: 14/DEC/09
APPROVED: WJT
DATE: 14/DEC/09

TITLE: THERMOSTAT CONTROLLED VORTEX CABINET COOLER SYSTEM
PART & DWG #: DO-11131-C
MATERIAL: NOTED
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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Increase Safety Window Kits Installation Procedure:

Purge Solutions also offers 5 different sizes of Increase Safety Window Kits with each size available in anodized aluminum or 316 stainless steel bezel material, which can be mounted on the door, sides, top or bottom of an enclosure. Model number PSO-1/32DINW-A is our 1/32 Din size with anodized aluminum bezel, model number PSO-1/32DINW-S is our 1/32 Din size with 316 stainless steel bezel. Model number PSO-1/16DINW-A is our 1/16 Din size with anodized aluminum bezel, model number PSO-1/16DINW-S is our 1/16 Din size with 316 stainless steel bezel. Model number PSO-1/8DINW-A is our 1/8 Din size with anodized aluminum bezel, model number PSO-1/8DINW-S is our 1/8 Din size with 316 stainless steel bezel. Model number PSO-1/4DINW-A is our 1/4 Din size with anodized aluminum bezel, model number PSO-1/4DINW-S is our 1/4 Din size with 316 stainless steel bezel. Model number PSO-XLW-A is our X-Large size with anodized aluminum bezel, model number PSO-XLW-S is our X-Large size with 316 stainless steel bezel.

Review all of the material in this manual prior to installing any Increase Safety Window Kit. If you have any questions, please contact your local Purge Solutions representative or the factory (refer Getting Help page 62). Refer to Increase Safety Window Kit, 1/32DIN, drawing number MM-11173-A (page 57), Increase Safety Window Kit, 1/16DIN, drawing number MM-11172-A (page 58), Increase Safety Window Kit, 1/8DIN, drawing number MM-11171-A (page 59), Increase Safety Window Kit, 1/4DIN, drawing number MM-11170A (page 60), Increase Safety Window Kit, X-Large, drawing number MM-11169-A (page 61), hole sizes and locations required to mount Increase Safety Window Kits to enclosure.

Increase Safety Window Kits and included hardware are constructed of materials as follows: bezels are customer selected in either; anodized aluminum or stainless steel, stainless steel mounting hardware, windows are laminated glass and o-ring seal is silicone rubber. Increase Safety Window Kits has a working temperature range of -40ºF (-40ºC) to +176ºF (+80ºC)

Step 1:

Make sure that area surrounding the enclosure the Increase Safety Window Kit to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Increase Safety Window Kit will be installed.

Step 3:

Choose a mounting location for the Increase Safety Window Kit on the enclosure. The chosen location should permit adequate viewing.

Step 4:

Use Mounting Hole Dimensions, Increase Safety Window Kit (drawing number MM-11173-A, page 57, MM-11172-A, page 58, MM-11171-A, page 59, MM-11170-A, page 60 or MM-11169-A, page 61) to accurately locate the mounting holes and window opening. Use the Mounting Hole Templates to create a 1 to 1 scale drawing. Tape the 1 to 1 scale drawing to the ***outside*** of enclosure. The required hole locations can then be transferred and / or marked using the centers of the holes as shown on the 1 to 1 scale drawing.

Step 5:

Drill or punch all holes, per the sizes specified on the Mounting Hole Dimensions, Increase Safety Window Kit (drawing number MM-11173-A, page 57, MM-11172-A, page 58, MM-11171-A, page 59, MM-11170-A, page 60 or MM-11169-A, page 61).

Step 6:

After required mounting holes have been drilled or punched into enclosure, align the Increase Safety Window Kit to the mounting holes fabricated in Step 5.

Step 7:

Using the mounting hardware provided to mount the Increase Safety Window Kit to enclosure. Make sure that both o-ring seals are properly seated in their associated bezel groove, then tighten fastening hardware until both o-ring seals have been compressed against the surface of the enclosure by drawing the bezel tight against the outer surface of the enclosure.

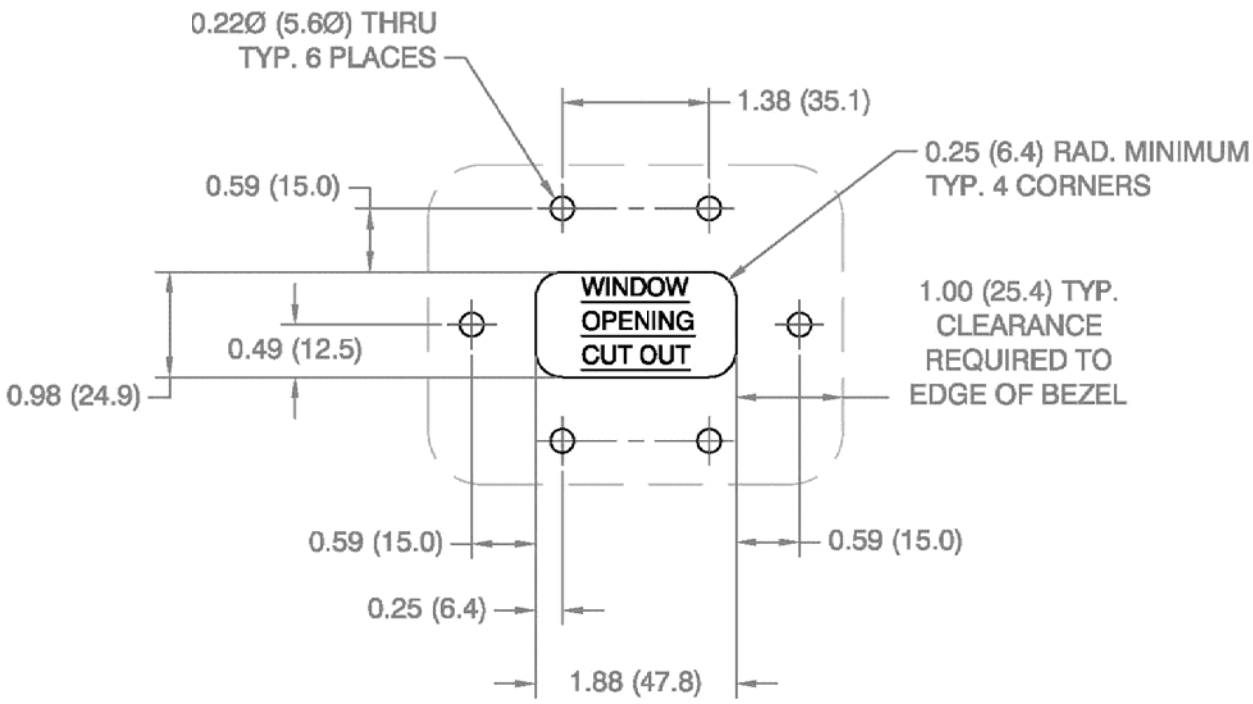
Step 8:

After all Increase Safety Window Kit mounting hardware has been properly tightened, the Increase Safety Window Kit is ready to view enclosure internal components.

WARNING: ***Before attempting to install any Purge Solutions option, review all the material and all safety information in this manual and all other applicable documents.***

WARNING: ***Applicable permits must be obtained and appropriate precautions must be taken to prevent possible injury to personnel or equipment damage when installing any Purge Solution option.***

NOTE: ***Refer to all ATEX, CSA, IECEx, NEC, NFPA and UL certificates for any Special Conditions of Use. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule of the certificate.***



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Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015
.XX = ± 0.010
.XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 02/FEB/12
CHECKED: WJT
DATE: 02/FEB/12
APPROVED: WJT
DATE: 02/FEB/12

TITLE: 1/32 DIN MOUNTING HOLE DIMENSIONS INCREASED SAFETY WINDOW KIT
PART & DWG #: MM-11173-A
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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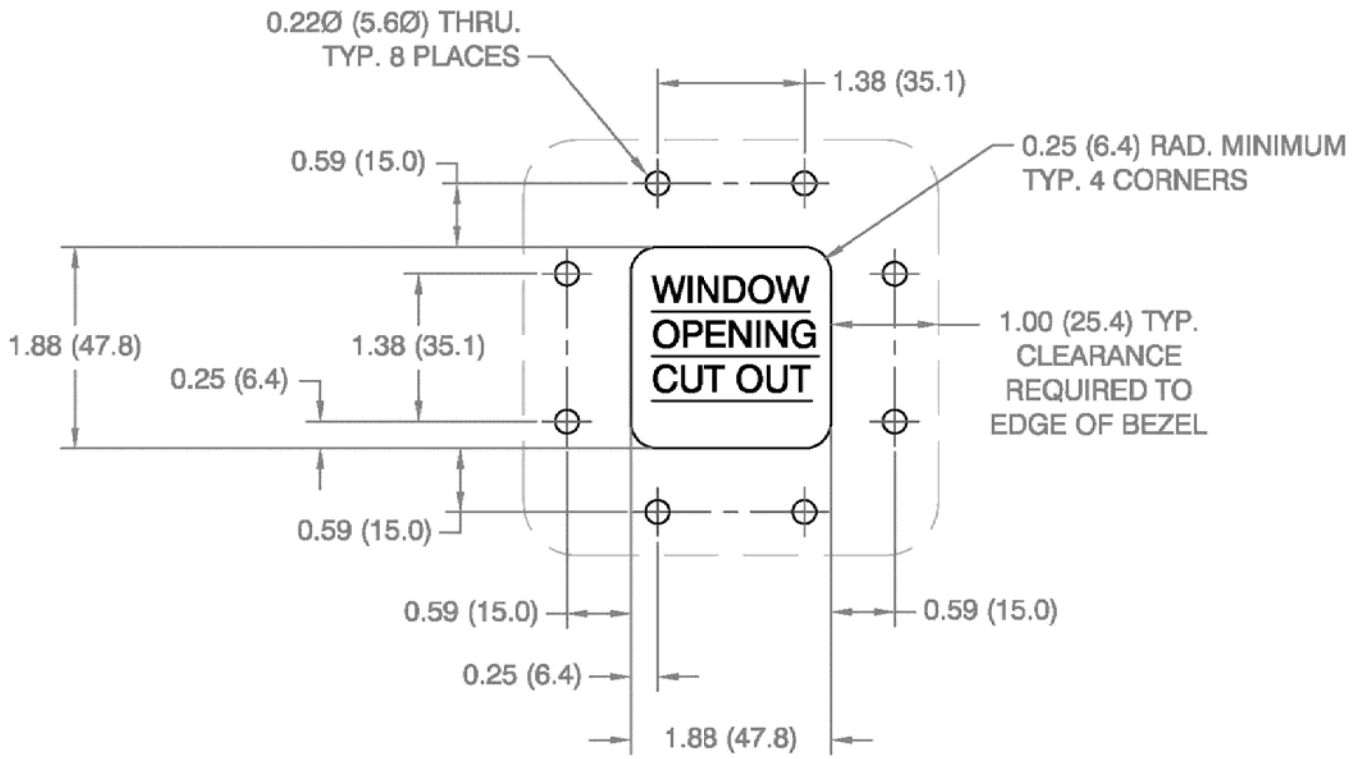

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.XXX = ± 0.005

Angular = ±0.5°

Break All Sharp Edges

63 Minimum Except As Noted

DRAWN:	WJT	
DATE:	02/FEB/12	
CHECKED:	WJT	
DATE:	02/FEB/12	
APPROVED:	WJT	
DATE:	02/FEB/12	

TITLE: 1/16 DIN MOUNTING HOLE DIMENSIONS
INCREASED SAFETY WINDOW KIT

PART & DWG #: MM-11172-A

MATERIAL: N/A

SHEET 1 OF 1

SCALE: N/A

DWG SIZE A

FINISH: N/A

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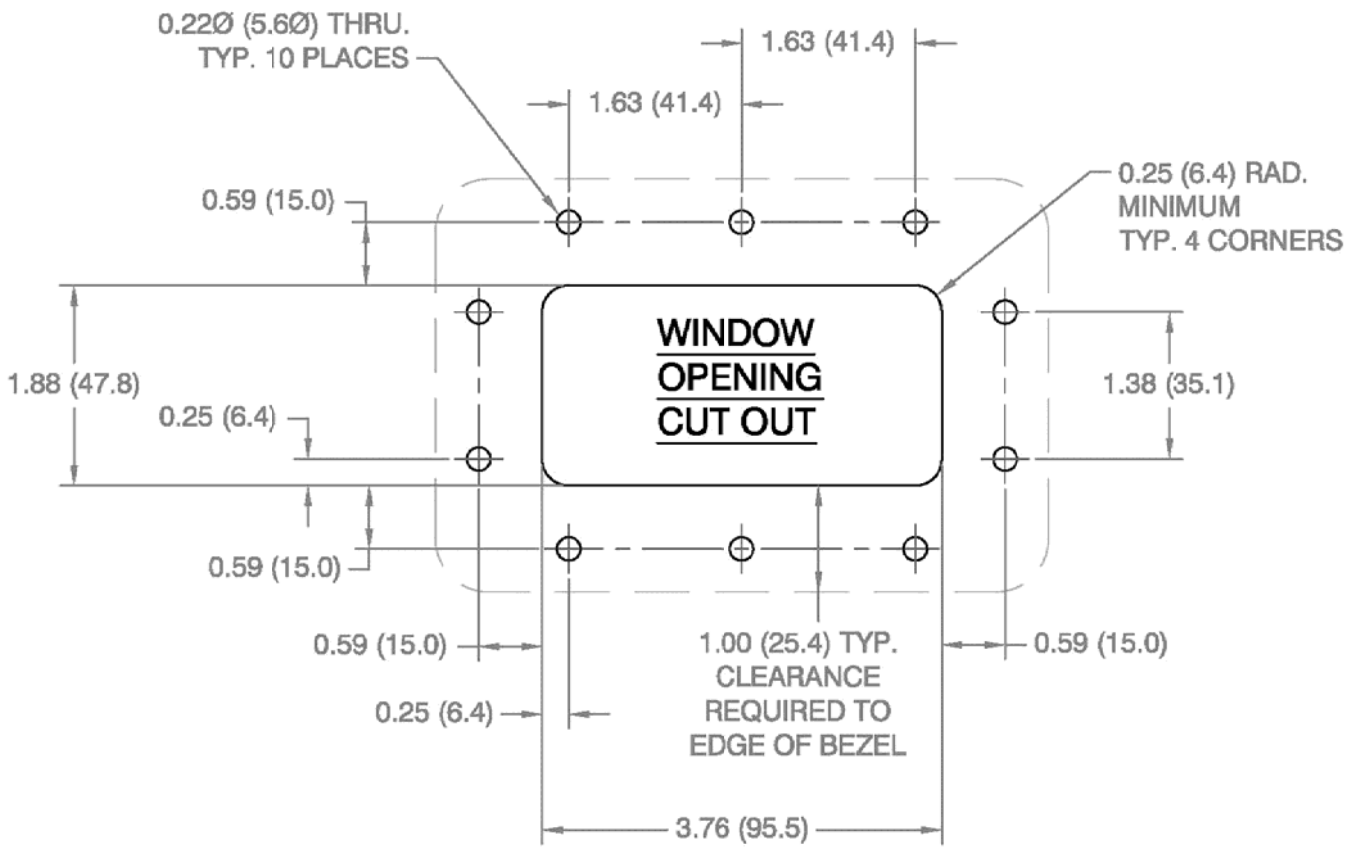

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XXX = ± 0.005
Angular = ±0.5°
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63 Minimum Except As Noted

DRAWN: WJT
DATE: 01/FEB/12
CHECKED: WJT
DATE: 01/FEB/12
APPROVED: WJT
DATE: 01/FEB/12

TITLE: 1/8 DIN MOUNTING HOLE DIMENSIONS
INCREASED SAFETY WINDOW KIT

PART & DWG #: MM-11171-A
SHEET 1 OF 1
MATERIAL: N/A
SCALE: N/A
DWG SIZE A
FINISH: N/A

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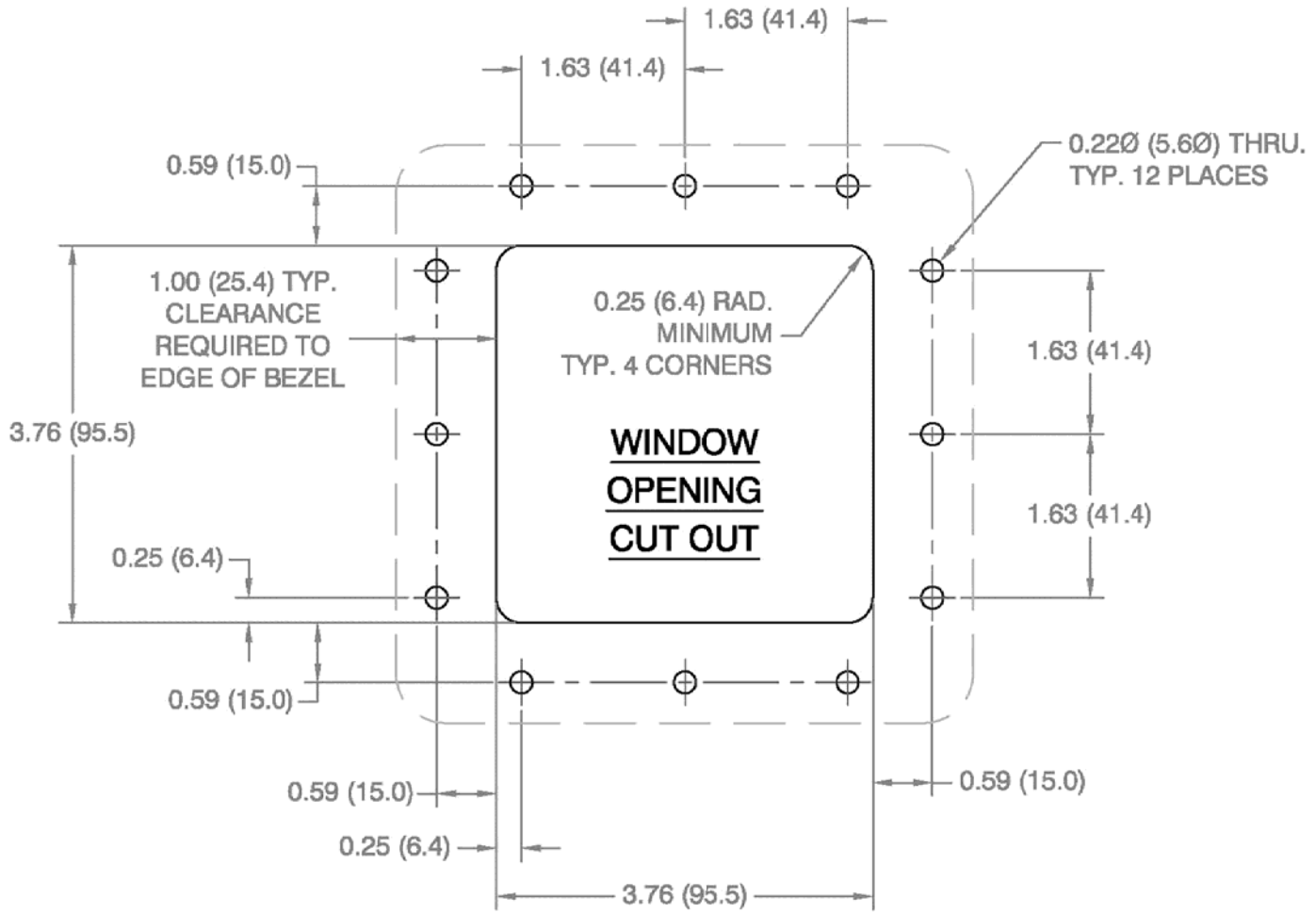

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DRAWN: WJT
DATE: 01/FEB/12
CHECKED: WJT
DATE: 01/FEB/12
APPROVED: WJT
DATE: 01/FEB/12

TITLE: 1/4 DIN MOUNTING HOLE DIMENSIONS
INCREASED SAFETY WINDOW KIT

PART & DWG #: MM-11170-A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
MATERIAL: N/A
FINISH: N/A

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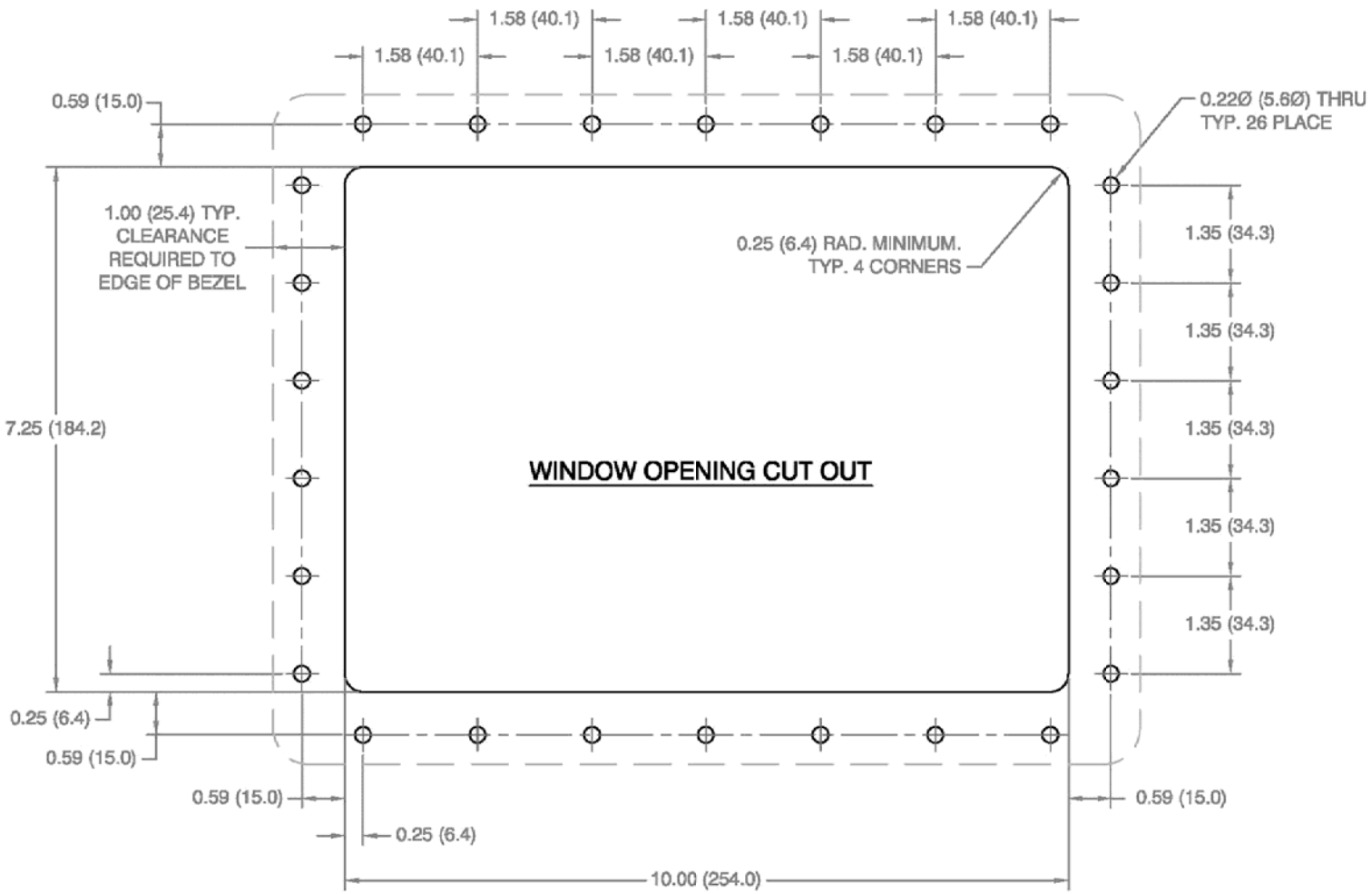

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Angular = ±0.5°
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63 Minimum Except As Noted

DRAWN: WJT
DATE: 01/FEB/12

CHECKED: WJT
DATE: 01/FEB/12

APPROVED: WJT
DATE: 01/FEB/12

TITLE: X-LARGE MOUNTING HOLE DIMENSIONS INCREASED SAFETY WINDOW KIT

PART & DWG #: MM-11169-A

MATERIAL: N/A

SHEET 1 OF 1

SCALE: N/A

DWG SIZE A

FINISH: N/A

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Section 5

Getting Help

Getting Help:

Answers to many questions concerning any optional products we offer are in this manual. If a problem or question is encountered that is not covered in the documentation provided, assistance is available Monday through Friday (except holidays), from 8 a.m. to 5 p.m. United States central time. To obtain assistance by telephone call Purge Solutions at **832-368-7166**.

For assistance during times other than normal business hours, consult our World Wide Web Internet site at **http://www.purgesolutions.com**. This site includes equipment information, news releases, videos and other information. E-mail can be sent to **info@purgesolutions.com**.